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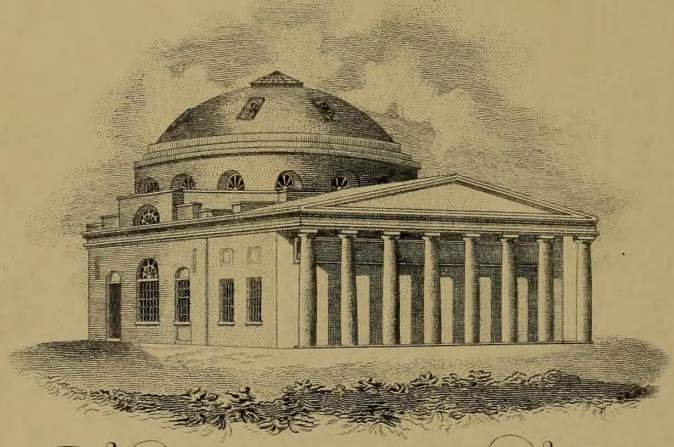

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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UNIVERSITY OF MARYLAND

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An
Inaugural Dissertation
on
Mania

Submitted for examination
to the
Provost, Trustees and Faculty
of the
University of Maryland
For the degree of
Doctor of Medicine
by
J. M. Cochran
Baltimore
Maryland
1833

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This Inaugural Dissertation on Mania, is offered to Dr Edmund. G. Edrington, as a tribute of respect, for his great moral worth, and medical acequirements, by his devoted friend, and pupil

M Cochran

"Canst thou not minister to a mind diseas'd;
Pluck from the memory a rooted sorrow;
Raze out the written troubles of the brain;
And with some sweet oblivious antidote,
Cleanse the stuffed bosom of that perilous stuff
Which weighs upon the heart". Shak

The manner in which Mania originates. The manner in which Mania makes its appearance, is very much diversified. In some instances the attack is sudden and violent and altogether unexpected; but in others, and probably in a much greater proportion of cases it is very gradual. A certain excentricity of manner has been in the individual perhaps for years. He has exhibited either very high or very low spirits — has been fretful an irascible on slight occasions — distrustful of his friends — strongly affected by every emotion and passion of the mind. The increase of these symptoms now prepares the friends of the patient to expect a full development of the disease.

In the beginning of the disease there is generally disorder throughout the whole system; such as considerable febrile excitement; loss of appetite, constipation and excessive restlessness. There are also very decided marks of unusual determination of blood to the head; such as flushings of the face, redness of the conjunctiva

contracted pupils, and pain in the head. The ideas of the patient are often more incoherent in the commencement of the disease than at a more advanced period. As the general excitement lessens the ideas of the patient acquire a greater degree of consistency, occuring in more evidently connected, though still retaining the true maniacal character. In this state the maniac remains a considerable time; the disease seldom yielding speedily, or proving suddenly fatal. He exhibits occasionally a state of complete incoherence, or the more cheering prospect of a more lucid interval. By degrees his ideas become more settled and the morbid symptoms either disappear altogether or they remain so indelibly fixed, that he sinks into the condition of a confirmed lunatic. In the more advanced period of the disease often becomes complicated with epilepsy or palsy and in that event the patient frequently dies in a comatose state.
When the excitement is great, and the paroxysms violent the patient is generally carried off in the early part of the disease quite unexpectedly. There is a portion of the insane who can only be restored to a certain degree of sanity. While kept quiet and unexposed to any source of irritation, they enjoy a considerable share of tranquility; retaining however, a morbid susceptibility to all the causes which produce the disease. Therefore they are incapable of mixing with the world

a renewal of mania. In some instances the delusion of the maniac, extends to a number subjects, at other times the mania-cal aberration is confined to one subject constituting what is called by some authors monomania.

Mania exhibits itself under three forms: the furious, the gloomy, and the idiotic; this division corresponds with the mania melancholia, amentia, and fatuitas of Nosologists. The Nymphomania and Satyriasis of Nosologists constitute varieties of monomania.

Prognosis.

A detail of the most striking peculiarities in each of the principal forms of mania would afford an ample field for the display of Eloquence, and might prove interesting to the man of feeling, and perhaps to useful to the cultivator of intellectual philosophy. To the cultivator of medicine the most interesting point in the investigation of mania is the prognosis, which within the last few years has been prosecuted with uncommon zeal, and has led to results which neither the Physician nor Philanthropist can contemplate without much gratification.

In the first place mania does admit in a variety of cases of a cure, provided the disease is brought under treatment at an early period. Secondly that a mild and humane of management is that under which the greatest number of cases have been cured. It is nevertheless true that mania though often curable, is not so in the same proportion with many other chronic diseases.

In estimating the probability of permanent recovery many minute circumstances must be taken into consideration and we are never to loose sight of the strong tendency that this disease has to relapse and rivet itself on the constitution by frequent recurrence. Insane persons recover in proportion to their youth. The chance of recovery diminishes with the lapse of time the disorder has continued. Persons who are in a furious state recover in a larger proportion than those who are depressed. Mania connected with palsy or Epilepsy is quite hopeless. Mania from physical causes is more likely to become permanently cured; than when it arises from mental or moral causes. Puerperal Mania is that species in which the greater number of cases have been cured.

Mania is more or less susceptible of a cure according as it arises from causes purely accidental or is connected with a greater or less family predisposition.

When it proceeds from other diseases such as repressed eruptions etc it is more curable, but when it arises from pride or religion it is seldom cured and is oftentimes fatal. In females if the menses are too abundant or deficient in quantity it is a very unfavourable symptom. That form of the disease which proceeds from scurvy is seldom if ever cured.

When the mind is not devotedly fixed on any one subject; where there are lucid intervals and where the ideas are gay and lively the patient is more likely to recover.

If the pulse varies when compared with the pulse of the individual enjoying his usual health, it is also an unfavourable symptom as it may be owing to some cause or causes that may be removed. If the patient be subject to violent pains in the head for a long time before the attack it is unfavourable, especially if the pain be situated in the posterior part of the head. Squinting is also a bad sign. When the eyes are suffused with tears, when the Tunica Conjunctiva is minutely injected, glassy, staring, or when they are unusually sensible to the rays of light the skin to blisters they are unfavourable symptoms.

Corpulence is a favourable symptom when it takes place after a gradual wasting of the body; leanness on the other hand is an unfavourable sign. A feeling of awe in the presence of the attendants is a very good sign. Anger combined with tears is also favourable. If on Venesection the patient in a stupid state it is unfavourable. Permanent Jaundice is unfavourable; the skin and perspiration becoming natural, a lateritious sediment appearing in the Urine are very favourable symptoms.

Diagnosis.

Mania is distinguished from Phrenitis by the more frequent absence of pain in the head in the former than the latter. from Delirium by the entire occupation of the with the disturbed current of his thoughts and the insensibility to external objects.

Delirium generally attends fever, while Mania is usually unattended

by fever. Mania occasioned by the intemperate use of ardent spirits is distinguished by the spectres and strange fantastic shapes seen by the patients affected with it.

Morbid Appearances.

The morbid appearances presented on examination of maniacs have caused an almost endless discussion among authors.
It has been contended by some the brain in nearly all who die of this disease exhibits some peculiar characteristic; a peculiar hardness ~~hardness~~ of the brain has been considered as the most common phenomenon. By others this, not only denied, but it is confidently asserted on the authority of numerous and accurate dissections that no alteration is discernible from the healthy structure in the heads of those who die maniacs. Now authors and respectable authors inform us that the morbid appearances exhibited by the maniac are in no wise different from such as die of any enchephalic disease, or even in common fevers. Serous effusions, thickening of the membranes, or turgescence of the vessels are all presented to us in our common fevers. The notion of mania being intimately connected both preternatural hardness is now I believe pretty generally abandoned by respectable authors.

Predisposition.

One of the most melancholy and at the same time one of the best marked causes of mania is Family predisposition. Some Pathologists struck by its extent and force have even questioned the possibility of mania without this predisposition. They have almost asserted that no

combination of other circumstances however great they may be can per se bring on this disease. The phenomena of febrile delirium are strongly in favour of the presumption that mania can sometimes be acquired. The which appear to prove this principle in Pathology occur in Puerperal mania. Calhoun informs us that it often passes over the first generation and appears in the second or in some succeeding one. Fear often produces it. The same author tells us moreover that children from aged parents are more subject to Melancholia, and those from Drunkards to mania.
Hereditary Mania is the most difficult to cure and more liable to relapses. Advanced life has been supposed to predispose to mania, for as a disease of youth it is hardly known. The female sex have been considered more especially liable to it. The attack generally commences between the ages of thirty and forty.

Exciting Causes.

Injuries of the head have sometimes brought on this disease. A constant habit of intoxication is that which chiefly acts as a cause of Mania among the lower classes of Society. This result cannot surprise us when we recollect how near it resembles Mania, and how greatly the frequent indulgence of it must seriously injure the delicate structure of the brain. Masturbation, cold water applied to the head, the excessive use of mercury, diseases of the liver, pancreas, spleen, worms and suddenly suppressed eruptions.
Miasmatic districts are supposed to favour the development of this disease. Maniacs are supposed to be more noisy in

in summer than in winter. Heat produces mania. Dr Bell states they are greatly affected by atmospherical changes. There were more admissions in one of the largest hospitals in Paris in the summer than in the winter. Maniacal functions are connected with the Uterine functions. Irregularity of the menses which in many young females would produced hysteria becomes in others a cause of Mania. Parturition operates as an exciting cause, bringing on what is called Puerperal Mania. Constant anxiety of the mind, when engaged in commercial speculations, intense grief, and disappointed love act as very powerful exciting causes. Intense study operate also as an exciting cause.

Pathology.

Of the actual state of the brain in this disease we have no certain knowledge. It is reasonable to presume there is in some cases congestion or certain modification of inflammation going on there. Some of the occasional causes, many of its symptoms, the modes by which it proves fatal, and occasionally the appearances found in dissection correspond perfectly with that notion. We are led to the same opinion by considering the good effects recorded of such measures as are commonly resorted to in Enchephalic inflamation, compared with the inefficacy of all others. But on the other hand however there are a number of facts connected with the history of this disease, quite inexplicable on such a principle, as for instance are hereditary predisposition to the desease, and its

recurrence at irregular periods from slight and inadequate causes.

Treatment.

The treatment is usually discussed under two heads, the moral and the medical; and both have been much improved of late years; the former being more thoroughly investigated, and raised to importance; the latter regulated by more accurate principles.

I shall begin with the moral treatment; it being universally admitted, that on it depends mainly the successful issue of the case. Under this head, is included first the conduct and tone of the practitioner and attendants towards the patients; the employment of restraint and coercive measures; the seperation from friends, and solitary confinement - the establishing a regular system in all their actions - the occupation of their minds - manual employment - exercise - the regulation of diet - attention to their regimen - and the change of scene.

Firmness on the part of the practitioner and attendants sufficient to insure obedience, is found not to clash with those Conciliatory measures, which so commonly win the good will of of the patient. The employment of severe bodily restraint is hardly ever exercised in the best regulated hospitals.

No reply should be made to their sullen remarks; a resolute air, directing the eye with sternness, will generally subdue them. If they have misbehaved and punishment has been resolved on, it should be inflicted without threats and in the presence of other patients, as it manifests to them the consequence of

misbehaviour, and moreover it should be applied by strong and a sufficient number of persons, so as to render attempts to resistance useless. "But in general it will be better to gain the confidence of the patient, as punishment should not be resorted to, except in very severe cases. Confinement of the hands, the plunging or shower bath will in general be found sufficient.
But nothing in general contributes so essentially to the cure as the removal of the patient from former scenes, and to do this effectually, the total exclusion of friends, and a complete change of habits are often found to be measures of indispensable necessity.
Amusements of various kinds, that engage the attention without raising the passions of the mind, or producing fatigue should in every way be encouraged. Religious exercises on Sunday are said to have a beneficial effect. To the melancholy and desponding, music and dancing have sometimes had a good effect, but if the patient be very irritable, they should be avoided.
The advantages arising from isolating a patient are so great as to be pretty generally acknowledged by all who have had much experience in the treatment of this disease.
The Physician should at all times have uncontrolled power over his patients, and he should in all cases exercise this right.
In subjecting a patient to moral treatment, it is necessary not to oppose directly his notions upon any subject. Their little whims should be attended to and all promise made either by the Physician or attendants should be religiously kept.

In some of the hospitals they give way to all their whims, listen to all their complaints, and appear to obey all their extravagant notions, and in this way gain an ascendency over them, they never beat or threaten, but impute the misbehaviours of the maniac to some other person, and thereby make them ashamed. The prevailing traits of Character should be studied by the Physician for the disease is more likely to disappear as their old habits reappear. They should be made to keep regular hours. A number of things have been invented to confine Maniacs. The chair of Dr Rush the straight waistcoat etc. Great attention should be paid to cleanliness, the rooms should be airy and in a healthy situation.

Medical Treatment.

This part of the treatment, was at one time conducted in the most indiscriminate manner, having no reference to the habits of the patient, or to the concomitant symptoms or even to the immediate exciting causes. — It is now well understood, that though medicines are of little comparitively value in the relief of mania, yet it is necessary that their administration be based upon sound Pathological principles.

The following suggestions advised by Dr Gregory in his excellent work on practice, for determining the plan of medical treatment best adapted to the particular state, and stages of mania, in which assistance may be required

I shall adopt. The medical treatment of this disease, can only be entered upon, with a reasonable prospect of success, at an early period of the disease. It cannot be legitimately be employed with any other object than that of relieving the constitutional disturbance, with which maniacal aberration is connected. When these have ceased our hopes of success must depend principally upon moral treatment, time, and the efforts of nature. When insanity first developes itself upon young and plethoric persons, it is usually accompanied with the ordinary symptoms of Phrenitis, and then we should resort to the lancet and expect beneficial results.

A great deal of controversy has existed among practitioners as to the beneficial results of blood letting. But in my humble opinion (if I may be allowed to hazard one) we should look to the exciting causes; for instance the disease has been produced by the excessive use of ardent spirits. Authors tell us that blood letting has been carried to a very great extent and the patient has borne it well and been decidedly benefited by the operation. The temperament and habits of the patient, are also to be consulted. Whatever may be thought of general blood letting, it is now universally admitted, I believe in all our best establishments for the insane, that local blood letting is of considerable use. General bleeding in Puerperal mania is always proper. When the disease depends upon suppressed menstruation or about the period of its final cessation or where

or where there has been any other habitual discharge connected with plethora, such as bleeding from the nose, piles etc, in those cases, local bleeding, low diet. After depletion has been carried to a sufficient extent, the warm bath may be used. Oleum Terebinth and tincture of Canthorides have been highly recommended. Exercise will also be found to be useful. When the attack comes on, after excessive indulgence of ardent spirits, it should be treated by remedies that lessen the fulness of the system, such as bleeding, low diet, and purging.
There is a form of this disease, mentioned by authors, in which one of the earliest means of relief, is the free and uninterrupted use of purgative medicines, it is denominated Enteric Mania. It is well known that a disordered state of the alimentary canal is an unerrable symptom of this form of the disease, so much so that authors have made a peculiar variety denominated by the foregoing appellation. It will be known by the obstinate constipation, and when an evacuation does takes place it exhibits a most unhealthy aspect. There there is loss of appetite, and coldness of the skin, the secretions of the mouth are of a viscid character, the urine is scanty and high coloured, the pulse quick and irritable, nights restless. This variety occurs after being at sea for a long time, living on salt provisions, thereby producing constipation. Drinking of ardent spirits is a very frequent exciting cause of this variety.

Symptoms.

The patient when first attacked, shows it by incoherent talking and and a certain odidity of behaviour, the person himself supposing that persons think him insane, when they have no such suspicion. He will probably tell them he is not deranged. The evacuations are of a bad consistence resembling coffe grounds chapped straw. The bowels are more loose than natural and very fotid. The atmosphere around the body of the patient together with his breath smells very badly. There is soreness and considerable pain about the region of the liver. The abdomen is very much swollen, being distended with wind. There is a great deal of tormina and tenesmus. The feces are only half discharged.
The mouth is red internally, the fauces are covered with mucus, the corners of the mouth are filled with froth. The tounge when put out trembles, and is filled with mucus. When it is covered with a brownish fur there is generally diarrhea. Sometimes the patient has no appetite and other times it is voracious. The extremities are cold, the skin clammy and cold; sometimes eruptions of a scaly nature make their appearance on the skin. The face is flushed and the eyes exhibit a wild and glassy appearance and are very sensitive to light; the conjunctiva being injected with blood.
The urine is high coloured and scanty and deposits a sediment very offensive. The pulse is rapid and irritable, generally neither full nor strong; the pulsations are very perceptible in the

carotids.

Treatment.

If the brain puts on symptoms denoting a violent or high degree of inflamation blood locally and general should be resorted to. The head should be shaved, cold affusions applied. Blisters are proper when the inflamatory action has been somewhat subdued. Generally this form of mania bears bleeding badly; it is admissible in those cases only in which there is considerable inflamatory action going on in the brain, or when the patient is young and plethoric. The most appropriate treatment for this disease is free and repeated purging as far as the strength of the patient will bear it. When the tounge is furred and there is want of appetite, emetics in small doses should be given. When combined with purgatives they are particularly useful in the beginning of the fits. Physicians in all ages have been induced in all ages to expect great benefit from the use of Narcotics, on account of the high degree of nervous irritation present in this disease. Opium, Hyoscyamus, and Camphor have obtained the highest rank. Digitalis has considerable repute among the English and French writers.
The use of the warm bath, and the cold affusion has been mentioned by the best authors as one of the best auxilliaries that we have, it is applied either by sponging, pouring it from a hight, immersion, or in that way denominated the shower bath, a great varietys of ways has been recommended.

In chronic cases setons, issues applied to the back of the are advisable. Galvanism and Electricity have also been highly recommended.

Nymphomania.

The most characteristic symptom of this form of mania is an inordinate desire for coition. The exciting causes are irritation of the parts of Generation, or any thing which excites the veneral passions, such as light and obscene talking, amatory reading, going to balls, Theatres, and other places of pleasure. It is supposed by some that hot and stimulating suppers act as exciting causes. The desires at last become uncontrollable and there is now a constant desire for sexual intercourse, expressed by sighs throwing the body in voluptuous attitudes especially before males The body emaciates under its influence, and the patient dies furious or melancholy.

Treatment.

Very little can be done by medicine. The moral treatment must prevail in this variety of Mania. Retirement into the country, low diet cooling drinks, nitre in large doses purging, general and local bleeding, and leeches to the back of the neck are amongst the most approved remedies. The desire is always excited about the period of menstruation. We should diminish it by bleeding, laxatives, and deluents. All the exciting causes should be removed from the patient

nd she should always be under a strict sense of moral and
eligious duty.

Satyriasis.

the most prominate symptone of this is an inordinate desire for
coition in the male; the exciting causes are much the
same as those in the foregoing variety, and the disease
should be treated accordingly.

An

Inaugural Dissertation

on the

Humoral Pathology

Submitted to the

Provost, Trustees & Medical Faculty

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

David Harrison Lovett

of Loudoun County Virginia

March 1833

In selecting the present subject on which we design making a few observations, it is not anticipated that an individual will be induced to forego a cherished opinion, in consideration thereof, indeed we are convinced of the contrary it not being by any means our design. Its importance we conceive furnishes a sufficient apology for introducing it, anywhere, and in addition there is perhaps no topic which affords a better, and more striking exemplification of the discrepancies among theorists than the present.

It is not a little singular that either the solids or fluids should be considered the exclusive seat in which disease primarily developes itself, when we advert to the general economy of animal being. The reciprocal influence which they exert upon each other, and their combined agency in the production of the phenomena of life.

In some sciences, and especially in medicine, the disposition to hasty generalization has been the source of much frivolous strife, and is the misfortune most to be apprehended in this and others perhaps which embrace theoretical & demonstrative speculation. Many such systems have arisen, purporting to have incorporated a mass of separate and unassimilated facts. What their fate has been is readily anticipated, for the most magnificent of them have scarcely survived the mock of mind and convulsive throes which gave them birth, without having secured any other friend & patron than their fond but deluded author; and such must necessarily be the fate of all universal systems in a science like that of medicine.

The animal machine is too abstruse and complex in its structure, too variable and incomprehensible in its functional & organic action to tolerate these exclusive doctrines so common in our science-

And which heradventure have retarded more than any other circumstance, its intrinsic advancement.

In the records of science in all probability there is not a more manifest specimen of the fallacy of reducing under one common head of doctrine a multitude of unassociated and independent phenomena than we find in the two conflicting theories of humoral & nervous pathology.

For many centuries the former was universally received. Every malady was referred to a morbid condition of the humors, the solids being entirely excluded in the consideration of disease. It is unnecessary here to refer to the various theoretical views that have been entertained from the time of Hippocrates to the present day. Suffice it to say that they have been almost as numerous as the writers. And evidently defective in a grand particular, in failing to explain the connexion between the primary cause, and the development of disease.

In the advancement of Medicine however when the structure and economy of the living system became better understood it was ascertained that a great number of phenomena could be rationally explained only by referring them to the laws which regulate the action of the living solids. The humors or more properly the Blood began to lose its former consequence. Solidism instead of humoralism became the fashion of the day until ultimately from the innate tendency of the mind to run into extremes the blood is by a great many disregarded and rejected as an agent incapable by its own morbid condition, or the adventitious matters it may contain of producing and sustaining general disease. Truth in this instance as in almost every such case, lies probably in the middle, and in order to arrive at it we must pursue a middle course, avoiding Scylla as well as Charybdis. Virtus est medium et utrinque reductum.

It seems clearly demonstrable to us that neither the solids nor fluids can with justice and truth, as the seat of disease alone, but that each of these parts respectively is susceptible of primary morbid changes & impressions capable of implicating and involving the general economy in disease. Nulla falsa doctrina est quæ non permisceat aliquid veritatis.

Although we do not subscribe to the extravagancies of the ancient humoral doctrine, (believing them to be crude and erroneous in many respects) we are not thence justified in its total rejection, for in its true and rational acceptation, the humoral pathology at present differs as widely from the ancient theory known under this name, as the present pathology of Nervous excitement, differs from the solidism of certain writers who taught that disease depends on a stricture or relaxation of the solids.

We think the importance of blood is unquestionable in health & disease, although D. Chapman excludes it altogether in the causation of diseased action, and in his views on the Modus operandi of Medicines, says. "I think therefore that the notion which would refer the operation of Medicines to their entrance into the circulation is perfectly gratuitous, originating at a period of darkness and when medicine was comparatively in its infancy is now abandoned by every one whose intelligence has at all kept pace with the progress of science" "Ego et doctrina meus".

To show that "every one whose intelligence has kept pace with the progress of science" has not "abandoned" the humoral doctrine, we will introduce a few authorities, D. Armstrong says. In modern times we have been too much disposed to ridicule the humoral pathology, but the truth is that all specific fevers may be considered as humoral diseases so signally, & so peculiarly are the fluids affected, and there are many other affections to which this doctrine is in part applicable".

Every Practitioner is aware, who has observed the progress of disease that the fluids do undergo important changes. The appearances exhibited by the blood on abstraction in different states of the system and of the same individual at different times strengthen this opinion. Blood drawn in the cold stage of fever is darker and coagulates more readily, cupped with a buffy coat and does not deposite the colouring matter. In the sweating stage it separates into serum and crassamentum almost immediately and is less cupped and has little if any of the buffy coat. Is this change of the blood the cause of the various symptoms of disease varied according to the nature and the presence or absence of the exciting cause? These changes in it, cause a new fluid or impure blood to be presented to the elaborating organs, which of course changes their action, and their action being less perfect render it still more vitiated (by a negative process) and unfit for use that the organs of the whole animal economy refuse to recognize it, and consequently in this state so unfit for elaboration, it induces debility and derangement of the general machine, therefore the symptoms of every form of internal & external derangement supervene. "And these changes" says Dr. Armstrong, "having been once fairly established I believe with Sydenham, that the blood must pass through some purifying process before recovery can take place; an opinion which appears to be confirmed by the gradual improvement in the secretions as convalescence approaches." In a foot note to the same Prof. Potter observes "Whatever may be the issue of the existing controversy concerning the properties of the circulating blood, whether it be vital or destitute of life, it is certain that as soon as it ceases to circulate in the common mass, its capacity for being converted into living solids is impaired or destroyed. When congested or stagnant it acquires a dark colour from the carbonic principle which combines with it, and possibly an

acrimony which may account for the lesion of the vessels". This doctrine in its modernized acceptation is abundantly corroborated by the celebrated Dr Good in his Class 3 Hæmatica and order 4. Dyscrasiæ or Cachexiæ;

It is well known that the celebrated J. Hunter taught that the blood has life, He says "This is an opinion I have started above thirty years, and have taught for more than twenty of that time". H. Harvey and many other physiologists supported this opinion - Dr Young carries Hunter's sentiment further, for he not only believes the blood to be endowed with life, but that it communicates life to the sentient and healthful parts of the system generally.

In the pulmonary system certain changes are effected in the blood, to subserve some useful purpose in the economy; for in proportion to the intensity with with the function of a part is performed, is its supply with blood, This is an acknowledged principle - Dr Bell says. "It follows from what he had said that a profuse circulation of blood is necessary to an accumulated nervous power". The Brain and blood seem to exert a mutual influence and dependence on each other and when the function of one is deranged both are, as is exemplified in the fact that when the blood becomes vitiated, Whether by the introduction of some extraneous substance among its constituent particles, by imperfect oxygenation, or otherwise; its effects upon that viscus are speedily manifested, by certain phenomena familiar to all varied according to concomitant circumstances; The natural and appropriate stimulus of the brain being withheld, the gradual or rapid but certain impairment of its functions succeed, the ulterior consequences of which are depravation of general functional action and loss of sensation & volition. On the other hand as the energies of the brain and its appendages become renewated the nervous influence extending

to and presiding over the action of the lungs is diminished, the blood necessarily receives a less perfect purification, at every systole and diastole of the heart, until it finally attains that impure condition as to be inadequate to the supply of the requisite stimulus for the perpetuation of healthy vitality. Dr. Stevens has adopted a new theory on fevers in which he substantially remarks that a malignant form of yellow fever is sometimes seen in the West Indies, which from beginning to end evinces by the symptoms little or no affection of the solids and leaving after death no cognizable trace of disease in the brain, stomach, intestines or other viscera, whose derangements are supposed to be the cause of fever. In those fatal cases there is no excitement in the commencement adequate to the injury of organs, and we can only ascertain the seat of disease of death, when we come to open the heart and find in its cavities a dissolved fluid almost as thin as water, and black as ink. A fluid evidently incapable of stimulating the central organ of circulation or of supporting life. The fluid is especially black and thin throughout the vascular system; all distinction between arterial and venous blood being obliterated. His practice was a medicine to correct this vitiated state and his success in such cases goes far to confirm the accuracy of his theory. It is stated that the same practice has been successfully used in Spasmodic Cholera. This view of the subject manifestly tends to confirm the theory of the vitality of the blood, and that this property became impaired on the accession of disease and ultimately destroyed. During its tendency to dissolution the action of the heart became gradually impaired until its conservative influence, and stimulating power became lost in the dissolved state, when the susceptibility of the heart to its impulse entirely ceased. "Whether we regard the blood as a vital or dead fluid," observes Dr. Eberle, "its constant influence upon the various organs of the

which
living system is unquestionable. For a material like the blood constantly moves through, and penetrates every fibre; which acquires certain properties and loses them again in its circuit through the body; which in fine conveys the elements of our secretions and keeps in play the very fountain of life - the heart; must it is evident produce a constant though imperceptible impression upon the whole organization, as long as the blood retains its healthy performance of organic functions of the animal economy. A change in its material constitution it is reasonable to conclude must be followed by a corresponding alteration in its general influence upon the system. Thus when it is not duly decarbonized in the lungs, the Brain together with the functions that depend upon it become torpid. And hence it appears that a certain condition of the blood depending on the absence or presence of certain matters is indispensable to the regular performance of organic action". What contends for the importance of the blood in various diseased action and ashs. "Does the blood really putrify in some fevers"? Dr. Gregory concludes a paragraph by saying, "and lastly the penetration of venous blood gradually destroys the action of the heart itself, and of every other contractile part through which it circulates". Death by pure asphyxia therefore is attributable to venous blood acting as a poison; first upon the nervous and then upon the other textures of the body and the remark will apply to all cases of drowning, hanging, confinement in vaults, or in irrespirable gases. Where death begins at the lungs. Why should the importance of the blood not be acknowledged? for from it all the solids are derived and nourished, and all the other fluids secreted. it being in fact the nourishing medium to the whole animal economy. It is unnecessary to introduce the experiments of Hunter, on the blood & his conclusions thereupon. Nor of Frank & others concerning the doctrine of peccant matters & fermentation, concoction &c. Of Exanthems acting in it & thrown off by depuration

Many other names might be adduced in support of the opinions here advanced but they would only increase the size of these sheets without adding conviction if the present fail of effecting that object. therefore we will close our remarks on this head by another Quotation from Dr. Armstrong. "The humoral pathology no doubt abounded with absurdities, but I am nevertheless fully satisfied that there are several diseases, to which it might in some degree be extended; and I therefore believe that its almost entire abandonment has been prejudicial by leading us from the investigation of various morbid states of the fluids, and the means best fitted to correct them".

We think it has been clearly established that the blood is susceptible of primary morbid impressions, and that according to the change it undergoes in its influence upon the whole organization through which it circulates. The inference necessarily follows in speculating further upon the subject that from internal & external causes foreign, irritating & other substances are receive into its mass. Here Dr. Chapman meets us again with his "ipse dixit" for he observes "That the process of assimilation as performed either by the chylopoietic viscera, or by any other part of the absorbent apparatus, completely decomposes all substances, and however discrepant in their properties reduces them to a homogeneous fluid". That the assimilative process does not decompose all substances submitted to its influence we trust will be shown. for there is incontrovertible evidence to prove that substances do pass into the circulation in an undecomposed state: Mercury has been found in the cells of bones. Madder stains them deeply if the animal be fed on it; Prof. M'Dowell states that he detected Rhubarb in the urine that the system had received per anum. In the thoracic duct substances have been detected which had been thrown up the animal's intestines, and the ablest Physiologists assert that all those bodies found in the urine taken by the stomach may by proper management be found in the serum of the blood of the vena portæ & Splenic & mesenteric veins.

The comparative facility with which these substances can be detected in the urine and the blood should be regarded in investigating facts of this kind. The long continued use of certain articles has affected the colour of the skin; the Nitrate of Silver for instance has turned it quite black for some time. That nurses who have taken medicine will impart it to sucklings infants, as well as certain diseases is a fact that will scarcely be questioned. Birds at certain seasons feed on poisonous seeds, which renders them dangerous food; Cows milk is often highly imbued with a peculiar odour and taste of some vegetable on which they feed. and all are aware that death in some cases is attributable to a similar cause in certain parts of our country, called Milk-sickness: the animals in grazing eat a vegetable poison by which their milk is so contaminated that the family after using it are sized with violent Gastric symptoms and sometimes death ensues

When any of the secretions or other parts of the body become impregnated with a noxious material received into the stomach, the blood from those parts are found must previously have contained either the substances themselves or their elements But if it does contain such elementary particles, from numerous analyses it holds parts that do not belong to it in its natural state. It has that in it which is offensive to the animal economy, and hence some emunctory is immediately brought into action to expel it from the circulation. If these elements which are not essential to the composition of the blood exercised no influence upon the system is it likely that they would be so soon removed from the body? Does this fact not accord with that remarkable power of animated bodies which is ever on the alert to detect and remove such causes as are pernicious to the living machine?

Dr. Good says that, fever & exanthems are harmless to every other part of the system and only become mischievous when they reach the blood. And that emetic tartar when introduced into the jugular vein will vomit in one or two minutes, although it might require perhaps half an hour, thro the stomach and does not then till it has reached the circulation.

Certain articles received into the stomach soon develope themselves in the various secretions, and Robertson says the Inhalation of Terebinthine can soon be perceived in the urine by the absorption of the veins, Others are manifested in the cutaneous & Pulmonary exhalations. Sir Henry Halsford relates a case of the suppression of Urine, where water was found effused in the Brain, and a strong urinous smell in the perspiration twenty four hours before death. Diet has considerable influence on the nature of the secretions: this is clearly deducible from the fact that, Animals fed on fish have a urine consisting chiefly of Uric acid. In graniverous animals it contains no lithic at all, and in man who subsists indiscriminately on animal & vegetable diet, experiments show that the urinary deposites are modified according to the kind of nourishment that is received into the system.

Are these effects produced by the action of the food on the nerves of the stomach and bowels, and these propagating the sympathetic action to the secretory vessels of the kidneys, enabling them thus to convert a larger proportion of the ordinary elements of the blood into the substances in question? Or does the chyle which is formed from certain kinds of food convey a larger proportion of the elements of such substances into the circulation, and furnish a more abundant stock of materials to the secretory glands? Majendie's and others experiments would confirm the latter opinion" that the Lithic acid is increased by an animal diet in consequence of its furnishing the Azote which is essential to the production of this acid".

Before closing we will advert to another opinion of Dr. Chapman advanced in his views on the Modus Operandi of Medicines, "It is incompatible" says he "with animal life, that such active substances should be received into the circulation since milk and other bland fluids have been known when injected into the vessels to occasion death." Now it is evident from the experiments that have been made by many of the ablest physiologists

We will now introduce the sentiments of a few others on this subject and bring our remarks to a close. Dr. Murray contends for the absorption of medicines into the circulation "and that they pass off by the emunctories with all their peculiar properties". And "that certain bodies are capable of evading the assimilating functions, and of entering unchanged into the circulating current, either through the branches of the thoracic duct, or of the vena portarum". Observes Dr. Paris, "is a fact which admits of chemical demonstration". He then proceeds to specify more particularly these substances, and arranges under the class of Diuretics that act "primarily" on the urinary organs, in order that "do not undergo any decomposition in transitu". The doctrines here advanced are fully and ably corroborated by Prof. Baker in his lectures particularly in regard to the class under consideration. —

Time will not permit us to extend these observations further, but we will observe in conclusion that when opinions are so discrepant, one must be more perfect in itself than another and more consistent with sound pathology also; consequently, that therapeusis which is based upon the most rational principles will be most successful. And an enlightened view of medicine will embrace that which is sanctioned by reason and experience tending to subserve the ever varying indications of cure, regardless entirely of the source whence it may have emanated, discriminating always with philosophic eye between truth and error.

We think that due bounds have been greatly transcended by zealous and intemperate advocates on either hand, and as it is an inherent principle implanted in man to pass from one extreme into another. We cannot so sanguinely anticipate the day as some do. When medicine shall be placed on a basis so firm as never again to be convulsed by the revolutions of opinion or the vicissitudes of fashion, but which shall endure as a monument of our triumphant industry, unimpaired amidst the waste of ages, and the ravages of time."

A

Dissertation

on the late

Epidemic Cholera

submitted to the inspection of the

Provost Trustees Faculty

of the

University of Maryland

for the degree of

Doctor of Medicine

by

Isaac Burneston Evans

Baltimore

Md.

1833

Doctor of Medicine

To

Samuel Baker M.D.

Professor of Materia Medica

in the

University of Maryland.

Much respected Sir

I have taken the liberty of dedicating to you this first essay, not only as an humble testimonial of your deservedly high reputation as a member of your profession, and of your private worth as a Gentleman, but as a token of gratitude for the many acts of kindness which I received at your hands while a student in your office. Be pleased to accept Sir my most sincere wishes for your future happiness, and permit me to subscribe myself

your friend and pupil

J. B. Owens

During the last seventeen years, but more particularly the last two, has the world been amazed at the rapid and unrestrained progress of a fearful malady - one whose cause and mode of propagation is a mystery, one whose course cannot be stayed by human precaution or invention spreading its influence from nation to nation and from city to city, in defiance of Quarantine regulations or fumigations and of every opposition whether moral or natural It was supposed, and the opinion is still maintained by many, that it is a disease which never existed prior to 1817, but upon reference to the experience of men who practiced years ago, it will be found that a disease similar to the late epidemic prevailed to an alarming extent in different parts of Asia from 1764 to 1814 inclusive By inspecting the Madras report for 1824 drawn up by order of the Government, it is there satisfactorily shown that the disease was known to the India surgeons long prior to the supposed time of its commencement, Be this as it may, it is my intention only to notice in cursory manner its progress from the time of its breaking out afresh in Jessore in 1817. In this province it made its appearance like the thief at night, without having given the slightest premonition. Thence in time it spread over the vast peninsula of India, consigning thousands

to the tomb, and striking the survivors with terror and dismay. But it was not confined to this region of country it advanced into Persia, and upon reaching the borders of the Caspian it assumed two different directions, one towards Asiatic Russia, the other into the countries lying along the Mediterranian Sea. Following its course from the north side of the Caspian, we find that it pursued nearly a western direction depopulating to a certain extent both Russias, Germany, Poland, France, & England, in fact almost all Europe felt its devastating influence - It had now reached the wide Atlantic, and it was confidently expected that its march would be arrested, But alas! how sad the disappointment; The Ocean offered no resistance to the progress of the pestilence, it has spread over our happy land, leaving no trace behind save the mounds of earth which cover its thousands of victims. Thus in the short space of 17 years has this plague scourged nearly 2/3 of the habitable world. How amazed must be every one who has viewed the rapid progress of this pestilence, and how continually does he ask himself the questions, What is the cause? what its origin? & how is it propagated? These are truly questions of importance, questions which have occupied the attention of medical philosophers since the first days of its existence, and tho' years have been spent in the inquiry, they have arrived at no well defined conclusion, - True it is that many

crude & ill digested speculations have been promulgated, claiming facts for their foundation, and tho' they have been received and cherished by many as sufficient explanation, yet upon a fair & impartial investigation, have been condemned & have in time given place to theories of later fabrication, but probably of no higher merit. We might here adduce all the opinions which have been offered to the profession at large, with all the facts & arguments in favour of and in opposition to each, But what would be the utility? The most generally accepted & at the same time the best attested opinion is that it is a very subtile agent which cannot be appreciated by our external senses, and one which is of terraqueous origin, What produces this agent has not been ascertained to my knowledge, but it is very certain that it does not depend upon those sources which favour the production of miasm; for this plain reason, that this disease has existed at all times & in all places, whether the temperature be that of winter or summer whether the situation be on the mountain top, or in the bottom of the lowest valley. However plausible in the Old World the idea, that it was dependent upon Marsh or contagious effluvia might have been, it will not serve the purpose now, for how then did it reach the shores of America! Nothing is more improbable, not to say impossible, than that an atmosphere however loaded with poison, should

pass over an expanse of water 3000 miles in extent, be subject to the control of ever varying winds and reach our shores still loaded with this agent so condensed as to be productive of disease; Viewing it in the most charitable light, it must have been somewhat diluted and as a consequence, the disease must have been milder, but such is not the fact, it is as much so if not more virulent than when it raged in Europe, It seems moreover that it does not that it ~~does not~~ always follow the course of the prevailing wind - on the contrary it has been observed in India that the disease has traversed the peninsula from one side to the other in direct opposition to the monsoon. Moreover it is known that this pestilence sometimes spreads along one side of a rever for a number of miles, suddenly ceases without any apparent adequate cause, crosses to the other shore, which had been before exempt, lays waste some villages, passes over others and continues its course in the direction whence it came & disappears for a time, suddenly breaks out in those very towns which it had left untouched a few weeks or months before. Another objection urges itself of still more weight viz. that we have in our country miasm of every density, & a climate the most variable, if then it could be produced by this agent, why had we not the disease years ago? Again, it has been observed

that in those localities in which malarious diseases flourish most luxuriently, Cholera has never made its appearance. But the idea of its being contagious is not less destitute of proof. First advert to all contagious diseases; we find that there are certain laws which are always obeyed, Viz. that the disease is propagated by contact,* that all persons who have never had the disease, upon being exposed to the cause will take it But these conditions have not been fulfilled; thousands of instances are on record of persons having slept in the same bed with cholera patients, of having worn the garments in which they died, and of having used the same water in which these patients bathed, have had the blood of cholera patients injected into their veins and yet have had no attack. We have also undisputed proof that of 300 Physicians employed in India whose services were needed night and day, and whose attentions upon the sick were unremitting, that of this number 3 only were sick of the disease, and but one died There are some instances which may be looked upon as exceptions, but they are easily accounted for; these persons must have been exposed to the same cause which induced disease in the patient. this then would be sufficient reason why they took the malady.— but this is not all. many of the ~~friends and~~ attendants are friends or relatives, grief

* a by inhaling the effluvium which arises from the lungs & surface of the body.

then for their loss acts as a powerful adjuvant to disease by weakening mental and physical powers – The fatigue of body consequent upon constant watching, broken rest, want of exercise & impure air, all tend powerfully to place the system in a condition favourable to an attack of disease. An other evidence of the falsity of this theory may be obtained by refering to the progress of the disease thro' the world. We find it breaking out in one City for instance, and raging there with violence suddenly it ceases, and again develops itself in another place perhaps hundreds of miles off, which has had no connection with the former town – for in some instances the interval of time between the development of the disease in both places, has been too short to admit of a transit from one locality to the other. How will the contagionist account for its breaking out in Orenburg a city in Russia in Asia, which was 400 miles from the nearest place in which Cholera had prevailed, and in which place there had been no case of the malady for 7 years prior to its appearance in the above said city This is one instance; many more can be shown, I will mention one which seems to me to be most remarkable and which defies all attempts at explanation on the theory of contagion. At the State prison in Baltimore two well defined cases of Asiatic Cholera marked by

all the characteristic symptoms, occured on the 26 of June some days before the disease had reached New York I ask how can the advocates of contagion explain this fact? But let us look at another fact attendant on the progress of this disease, and compare it with the laws which govern malidies which all admit to be contagious When Small Pox for example breaks out, we find it commencing with one individual, and gradually diffusing itself, extending from person to person, from family to family and from community to community, untill it brings under its dominion all who are not protected against it, only "sheathing it sword for lack of argument" On the contrary, the first notice we have of the existence of Cholera consists in the alarming fact, that tens, hundreds, or thousands (according to amot. of population in different localities tremote from each other, are prostrate thro' the influence of its hidden cause, If this disease can be propagated by contact, the cause must exist in the body, and is as active after death as before: a surgeon then who makes an autopsic examination must of consequence take the disease, this alway Sobtains in Small Pox and the like, but who let me ask can adduce a single instance of the kind — thousands of bodies have been examined after death by and in the presence of thousands of individuals, yet not one death has been

or can be attributed to it, Contagionists have referred to the importation of the disease into America as an argument in support of their theory. But how did the disease reach America? Tho' we cannot answer the question satisfactorily, we can show that it was not brought by Contagion It first appeared at Quebeck, and broke out among the emigrants some thousands in number who were crowded together along the shore – The first case occured soon after the arrival of a ship from Europe, and it was immediately determined that the passengers had brought the disease with them and communicated it to those on land – There had been some cases of Cholera on board during the voyage, but there was none of the disease existing at the port from which the ship sailed nor did any case occur until they had been nine days at sea, the disease then prevailed to some extent among the passengers but had entirely subsided for more than 30 days before they reached America. This circumstance proves three things, 1st. That as the disease did not prevail at the Port from which the ship sailed, the passengers could not have imbibed it there, 2nd. That as the disease did prevail at sea, the cause must have existed at sea & 3rd. That as there had been no case of cholera for more than 30 days before the ship reached land, there could have remained no cause of disease, because according to

the laws which govern all contagious maladies, the disease must have manifested itself before the expiration of that period, if it had existed in the system, It may be contended that the articles of cloathing were impregnated with the poison, and that the disease was communicated to those on shore through the medium of these fomites— If this were the fact in Quebec, it must hold good elsewhere, but no where else has it been observed— Physicians have been with persons in this disease hour after hour, yet in no instance have they communicated it to their families or their patients whom they subsequently visited. —

"With respect to the other law, I need only advert to the fact, that not one in ten of those who have been exposed to the cause have suffered from an attack of the disease But I will pursue this point no further; fact & observation have now placed this matter beyond controversy. But what then is the cause we may ask? The answer is, nothing certain is known respecting it. It is supposed as I said before to be a subtile principle eminating from the earth not in a nascent, but in a permanent form; what its ultimate or proximate principles are, or what circumstances favour its generation are not known The proofs in favour of this last theory are as yet scanty, but as we have seen that the disease cannot be produced by either of the above, we must adopt this for want of a better.

Having been baffled in pursuit of the remote, we must for the present be content to come at the proximate cause. And this I conceive can only be done by reference to close observation of the first symptoms. As all agents must act primarily on the nerves, and as at this time there is admitted on all hands to be two nervous systems, it will be well to inquire" 1st. whether these be dependant or independant of each other & 2nd ly whether one or both is affected, and which it is that suffers and 3rd ly what is the immediate effect of such action. With respect to the first question then, Whether these systems are independant of each other, seems to involve more anatomical facts and arguments for the just decision, than I am master of; yet I will give a few reasons for supposing that they are; in the first place there are two great centres, one in the Cranium and the other lying on the trunk of the body from which eminate nervous fibres, which are said to form connection with each other, 2nd They differ materially in structure, 3d They differ also in colour & 4th They differ as we shall see in functions. The next question that arises is what is the function of either? This question was never fully answered until the discoveries of Magendie & Sir Chas Bell. These eminent physeologists have determined by one brilliant experiment, that upon the nerves of the cerebro spinal system depend sensation and the powers of volition ~~& motion~~

which experiment as is well known consisted in truncating alternately the filaments which eminated from the anterior and posterior rods of the spinal cord. Notwithstanding by this operation, the powers of sensation and motion were broken up, yet the functions of the body were preserved entire. Another proof is that in acephalous monsters which have lived for some time after birth, the functions of the body have gone on in a regular manner. Cases of hydrocephalus & Palsy have been known in which voluntary motion and sensation were entirely destroyed, while those functions which are supposed to be controll by this system have been found in no respect wanting — Having then shown that the Cerebro-Spinal System controls voluntary motion and sensation, and that these are annihilated by the destruction of the nerves pertainng to this system, while the functions were entire, it follows that these last (functions) are under the dominion of the Sympathetic or Ganglionic System — Thus much being premised the following questions are easily answered viz Which system suffers & what is the effect of the action of the deleterious agent. When called to a case of Cholera even in its fully formed state we find that the skin is shriveled owing to an absence of blood in the cutaneous capillaries, and as a consequence, total absence of perspiration — except when a morbid exudation is forced out by the

the violence of the pain the respiration is impeded, the blood highly carbonized, the heart retarded in its action, and an entire suppression of Urine & Bile We find on the other hand, that the powers of voluntary motion and of sensation remain unimpaired, that the mental faculties are sound in every respect and that these continue so almost to the moment of death; but these we have shown to depend upon the influence of the ~~Cerebro~~ Spinal System; if then the ~~System~~ stream is pure, the fountain must be pure, or in other words if the powers of the mind, sensation and voluntary motion depend upon the ~~Cerebro~~ Spinal System, and these powers are unimpaired, of course the last named system is unaffected. By a similar mode of reasoning we can show that it is the Ganglionic System which suffers from the action of this deadly agent, We have shown already that it is the province of the sympathetic to preside over the functions of absorption, secretion, digestion &c; in Cholera these functions are always suspended, consequently the sympathetic must be in fault. Having thus far cleared our way, we can examine with much more satisfaction the "modus operandi" of this agent The next question which arises then is, through what medium has it access to this nervous system? We well know that sympathetic filaments are spread out in

all the structure of the lungs, as well as that of the Stomach and Intestines, If then this agent is suspended in the atmosphere, we have two routes by which it may be conveyed to the nerves,- much more speedily through one than the other, for through the Lungs a portion of it is introduced at every inspiration- whereas it could only come in contact with the Stomach after having been intimately mixed with the Saliva and after the Saliva had been ~~introduced~~ swallowed, & being brought into contact with the sentient extremities of the nerves, an impression is made, which impression is conveyed to the common centre, and thence radiated to every part of the system over which it holds dominion- the result of this impression is a prostration of the nervous energies more or less complete in proportion to the virulence of the poison and according to the strength of the constitution. We have now it seems to me arrived at the proximate cause of this malignant disease; for every phenomenon can be explained, when it is known that the ganglionic system is deprived of its energy. This, altho' an effect is the cause of all the various symptoms ~~of~~ which characterize the disease, for a proof of this assertion, let's appeal to a partial analysis of the disease Its secretion in all its various forms impaired or at an end: yes, well the function of secretion depends upon

the influence of the Ganglionic system. Is the function of absorption impaired? this too is under the control of these nerves. In fact the Heart and capillary vessels of every kind are in a weakened or atonic condition, owing to a diminution of their accustomed stimulus. Hence the languor of the general circulation, and the unchanged condition of the blood. (the heart not possessing power sufficient to project the fluid into the pulmonary radicals) This is in fact the state of predisposition; the system may now be likened to a magazine with a trail of powder already prepared and only waiting for the match (exciting cause) to produce an explosion which leaves only a wreck behind. We have now given our view of the proximate cause or state of predisposition (we conceive them to be identical) and the next point of interest which we shall discuss will be the exciting cause. Any substance which will produce irritation may be ranked under this head, even those articles which under other circumstances are not only harmless, but even conducive to health light up the disease which in a few hours terminates existence. Among exciting causes may be placed 1st Atmospheric vicissitudes. This is perhaps one of the most extensive of the class, altho' somewhat obscure in its opperations, it may however be explained in this way. During a high temprature, the cutaneous

exhalents are active in their office of secreting perspiration and the whole body becomes relaxed, but the temperature suddenly falls, heat is abstracted, the cellular tissue contracts, the mouths of the exhalents shut up, the blood is driven out of the capillary vessels, in fact the fluid is forced from the surface to the centre, and the internal vessels being as we have just demonstrated in an atonic state, are not able to expel their contents, the consequence is congestion & inflammation; the vessels in their weak and congested condition can no longer secrete, but with open and patulous mouths permit the more fluid parts of the blood to ooze out, hence we have those evacuations which are called "Rice Water," and which in fact consist of nothing more than the serum of the blood.

That atmospheric vicissitudes do constitute an exciting and sometimes a predisposing cause, may be fully illustrated by many facts upon record, The Physicians of India who have practised among it for years, have observed that the disease always prevailed most extensively after a heavy storm of rain, nor is this confined to Indian Physicians alone; whenever the disease has appeared this fact has been observed, indeed in our own city, a sudden diminution of temperature was followed by a wide increase of the Epidemic. To Atmospheric vicissitudes can alone be attributed the development of so

many cases of the disease, during the middle of the night and towards morning. The person is predisposed because he has been subjected to the influence of the remote cause he retired to bed, being sufficiently cloathed for comforth, the temperature gradually lessens, and by midnight it is much cooler than when he went to rest, but he is not protected against the change; the consequence is, the heat is abstracted from his body, the blood is driven from the surface to the vessels of the centre which must from their weak condition become congested, and hence results the usual phenomina, Another and at this time a very extensive class of excitents are acid or indigestible articles of food, among these unripe fruits of all kinds, and vegitables. I have said these are at present exciting causes, because now the system at large is weakened and the Chylopoetic organs as a part must participate; the food is chewed and carried into the stomach, but this organ is no longer able to perform its duty, the food is consequently either ejected or passed into the intestinal canal in a crude or indigested state, the gastric juice is vitiated, healthy chyle is no longer formed, and bile is withheld from the canal either because the duct participating in the spasm refuses an outlet to it, or because it is not secreted in proper quantity The ingesta are now in truth foreign bodies, and as such produce such irritation on these tissues that congestion and inflammation ensue, and

thus we have the disease established, These are the two principal exciting causes, but there are many cases which require no second agent to develop the disease, As in the higher grades of Bilious Fever we find that persons who were in perfect health a few hours before exposure to the malaria, suddenly overrwhelmed, the powers of life nearly prostrate, and a disease of a most malignant character set up which threatens to destroy life, So is it with respect to this, the interval between health & disease is so short that time is scarcely left for the action of another cause, Indeed there is no necessity, the constitution for some reasons, perhaps abuse from intemperance, or worn out from long continuance of disease, or the maladministration of medicine, is already liable to the inroad of any ~~other~~ disease; here then it evident that less is required to produce the same effect, than would be necessary to accomplish that purpose on a strong healthy individual— for where the same agent only induces predisposition in this person it goes a step beyond in the other, and becomes a cause both predisposing & exciting. Any thing that suddenly disturbs the mind, is also a powerful excitant. Grief Fear, Despair have all acted in this capacity, nor are they the most insignificant, for their action is so decided upon the general system, that the almost inevitable consequence is death. To trace the connection between cause and effect

in this instance is beyond my ability, but the fact is no less certain; one case of the kind I can vouch for since it occured in this city; I speak now of a Lady who was apparently in perfect health, until she was made acquainted with the sudden death of a dear friend, when she was immediately taken with Cholera. Another is related by Dr. Greenhow of New Castle, England, of a woman who was perfectly well, untill news was brought her of her sister's death by Cholera, when she sickened of the same disease and died in a few hours. Many other cases of a similar nature are no doubt on record, but these are sufficient. Those persons had been exposed to the common cause, but either their constitutions were so strong, or the agent so mild as only to lay the foundation of the disease without fully developing it. There are perhaps many other agents which might properly come under the head of exciting causes, but those which have been mentioned are deemed sufficient — they being the most common — Having thus briefly given a view of the rise and progress of the disease, together with an opinion respecting the proximate and exciting causes & of the modus operandi of the latter, I will now procede to describe more minutely the symptoms which characterise it in its various forms. There is no complaint, which as far as my knowledge extends, preserves precisely the same symptoms under all circumstances; this

cannot and is not to be expected to take place until all constitutions, all habits and all manners become similar, and not even then, unless the cause preserve at all times the same degree of concentration. This disease most commonly is preceded by a languor and debility, which are seldom observed at the time by the person, want of accustomed appetite, and when the food is introduced into the stomach it produced a sense of heaviness &, flatulence of bowels;

then comes Diarhea, attended by a constant pain in some part of the Abdomen most generally in the Epigastric or Umbilical regions. The feces which are at this time dijected are of a natural appearance, but of a thin consistence, and its excretion is sometimes accompanied with tenesmus, the patient experiences also slight giddiness and head ache, particularly when he attempts to maintain the upright position - These symptoms which constitute what I shall call the first state continue sometimes for one or two days and if not checked, are followed by others of a more aggravated nature, which more particularly point out the true nature of the disease. The diarrhea now becomes more profuse, the bowels, having discharged their natural contents throw out large quantities of a whitish fluid resembling rice water. The stomach also manifests symptoms of disease by its constant effort to throw out its contents, which at

at first consist of articles of food that have been taken for several days past: when these have been ejected a fluid resembling that which was discharged from the bowels is thrown up, with this difference only that it is mixed with a mucous resembling the mother of vinegar Spasms now come on, commencing at the extremities of the toes and fingers & gradually extend along the limbs reaching often as far as the abdominal muscles - the spasms are of the tonic kind, attacking at intervals sometimes one muscle sometimes one set of muscles - and not unfrequently the whole at once, attended at the same time with most excruciating pain - a copious sweat at this time often breaks out over the whole body - the countenance is indicative of great anxiety, and debility is very apparent, the breathing becomes hurried and laborious, the hands and feet grow cold, the skin covering them is corrugated, and the pulse sinks rapidly so that when the finger is placed upon it, it feels like a small thread, These phenomena constitute what might with propriety be called the second stage, and unless remidies are promptly administered, the disease soon changes to the third or Blue stage from which it is almost impossible to recover the patient. When this form of the disease appears, the vomiting purging & cramps are for a time increased, then suddenly subside altogether, the extremities become icy cold, pain ceases, the features are

shrunk and collapsed, the eyes sink deep in the socket and assume a glazed appearance, while a dark livid areola surrounds them, the voice is unnatural & reduced to whisper, internal heat and thirst become intolerable, the patient continually calling for water, which when obtained gives no relief, anxiety and restlessness much increased, tossing from side to side while strength sufficient remains, and when that fails he requests the byestanders to assist him — the hands are still more shrunk having now the appearance of a Washerwoman's — the whole surface of the face and extremities, and sometimes of the body is of a livid blue colour, and exhales a disagreeable odour which is so very peculiar, that when once noticed cannot be forgotten The urine which was at first very small in quantity is now entirely suspended — the pulse can no longer be felt at the wrist, or in the temporal artery, a slight pulsation is only to be noticed in the carotid — in this condition the patient lingers from 2 to 6 or 8 hours, when Death terminates his sufferings. I have now given the train of symptoms which most commonly attend this disease but there are as many variations as there are different constitutions — Sometimes the bowels are not disturbed by Diarrhea untill an hour or two before collapse — In many instances I have known the bowels to have been constipated for several weeks, the patient not being able to obtain an evacuation, tho' assisted by a mild

purgative, when suddenly a reverse obtains, the bowels become loose, and large and watery stools soon empty the intestines of their contents, producing at the same time such debility of the common system, as to reduce the patient to a fearful extremity. Thus again have been exempt from vomiting throughout the whole course of the disease - and cases are on record in which no spasm ever appeared. I have said that the disease is proceeded by premonitory signs, and such is the fact in most instances, yet it sometimes happens that these are wanting for the patient who was a few minutes before well and attending to his duties is suddenly attacked by the most violent symptoms falls prostrate, and in a very short period of time sinks into collapse - There are many others of the lesser phenomena, which are often absent; enough however are always present to indicate clearly the disease in question. The prognosis is clear and may be relied on with much certainty. In what I have denominated the first and second stages, if proper remedies be administered promptly, and the person have even a tolerable constitution, ninety nine out of an hundred such cases may be regarded as curable, but if the patient has been neglected untill the disease has progressed so far as the 3rd. or Blue stage, all idea of recovery may be

abandoned - at least I have never seen a case of the kind restored, nor have I ever heard of one. The system is at this time completely prostrated, so much so that our art can afford no means of relief - the excitability is entirely destroyed, indeed I have seen the most powerful stimulants administered in inordinate doses without producing the slightest reaction - When the disease is about to terminate favourably, the gastric irritability subsides, abdominal pain & the spasms cease, the skin becomes soft, warm and natural, healthy perspiration breaks out over the body, the patient is quiet, respiration easy and natural, the pulse becomes full free and open the secretions are once more restored, and the patient sinks into a profound and refreshing slumber. This state of things is well calculated to inspire both Physician and Patient with confidence, but difficulties are yet to be obviated, before the person is pronounced out of danger. This danger consists in the tendency which the disease has to resolve itself into the Typhus a malady not so rapid in its course, but equally fatal in the end, and which indeed requires more skill and judgement to control it, than is called for in the management of the primary disorder. — Thus have the fondest hopes of the Physician been blighted when by his utmost exertion and care he

has succeeded in rescuing the sufferer from almost immediate death, and left him as he thought in a state of speedy convalescence, he finds perhaps the very next day sinking fast, if not already sunk into a low Typhus It is indeed a choice between Scylla & Charybdis. The Pathology of this disease is the next subject of importance of which I shall treat; with regard to this there can be little doubt remaining in the minds of those who have ever witnessed autopsic examinations - and this is well, for tho' it matters not what opinions prevail respecting points of minor importance, this point upon which are founded our rules of practice, and without a knowledge of which we are as blind men must at least be settled, of this we must have an idea, and a correct one too when practicable, else we are nothing better than murderers As it is to be expected we find the disease principally located in the mucous membrane of the stomach and intestines, I say principally because of a number of bodies which I have seen opened, the Gastro-Intestinal mucous membrane was always diseased, when every viscera in the body & thorax & pelvis was, so far as could be ascertained, perfectly sound, they at least evidenced no pathological marks. The external appearance of the body was of a livid colour, which was for the most part predominant, the skin was tense and fitted the muscles

closely. so as to show the outline of each superficial one. The cellular tissue was in every part condensed On cutting open the abdomen the peritoneum lining the abdominal walls was commonly observed to be healthy, where it covered the Gastro intestinal tube it bore a reddish colour, which might have been owing to the inflammation and congestion existing, in the inner coat, the mesenteric, abdominal and portal veins were much congested, and when cut across, the blood flowed from them thick and of a remarkably dark colour. When the Stomach was opened a mass of disease was displayed, patches of inflammation were observed in different parts of the mucous coat, which membrane exhibited one entire extent of inflammation and congestion, this membrane was often so diseased that it ~~might have been~~ could be scraped off with a scalpel, thereby exposing exposing the muscular coat, yet in some instances it was so firm that it could be torn off in shreds. Most commonly the pyloric portion suffered more than the cardiac, Following the membrane throughout the canal we observed for the most part a repetition of what was observed in the Stomach, the mucous coat resembled in many places a piece of red flannel in colour – some parts were observed to be more diseased than others, particularly the duodenum and part of the Ilium. The large Intestines presented

a blanched appearance, with here and there a patch of inflammation. The mucous coat of the canal as that of the stomach was very much softened and thickened, the Agminated and solitary glands were also much enlarged, the cavity of the stomach and bowels was filled with the rice coloured fluid. In one instance the canal was filled with a fluid of a reddish brown colour, the large arteries, as also the veins contained dark coloured Blood The liver generally bore a healthy aspect sometimes slightly congested and of the natural size, The Gall bladder was partially distended with a greenish bile, and the ducts were entirely pervious, yet not one drop of this fluid could be found in the intestines. The pancreas in some subjects was slightly congested, but most commonly it had a healthy appearance, the same with regard to the spleen, The Kidneys upon examination were found to be sound in structure; the renal veins were somewhat congested, but not the slightest trace of organic lesion could be observed, the pelves contained no urine - the bladder contracted and empty. The Thoracic viscera presented no sign of disease - the large vessels were indeed congested, the lungs healthy but collapsed - the Heart of the usual size; right side distended with black blood, the left empty - Aorta congested with a dark coloured fluid resembling carbonized blood. I have seen but two Brains examined, both these were sound in appearance

slight venous congestion, and upon cutting the lobe a few small red points were seen - the substance firm. the ventricles contained about ℥iv of serum - I have never seen the medulla spinalis exposed - I have been thus hasty in noticing the Pathology because I shall adduce some cases in the end which when viewed in connection with the symptoms will be more satisfactory So far however as we have observed the pathological state, we find the disease to be one of congestion & inflammation, the morbid condition being confined almost exclusively to the mucous coat of the Stomach and Intestines. Why this should be the principal seat of the disease, since every part over which the sympathetic presides is equally liable, requires explanation, for it seems as if the cause was specific in its action, choosing this membrane in preference to any other. The reason appears to be this, that there is always an exciting cause at hand, for when the predisposition is established, digestion, absorption, and secretion are impaired - food and other matters which are always to be found in the canal, become an exciting causes because the food is not digested, and the different secretions are entirely abnormal; these then are the irritants, and by their impression upon this membrane, at once light up the disease in this part. Another and by far the most physiological reason is that the

mucous membrane of the alimentary canal is more highly sensitive, and consequently more susceptible to morbid impressions. This I shall assume as proved and will refer those who are disposed to dispute, to the works of M Broussais and other eminent pathologists Leaving for the present this part of the subject, we will examine the indications of cure which are pointed out and notice particularly the remedies which have been used. By refering to the pathological state, we find that the disease when established is one of inflammation and congestion, with a consequent impairment of all the functions. The only indications then are to obviate or reduce inflammation and congestion. As the disease consists in this abnormal state, it must be removed when this condition is rendered normal. To do this it is nessessary first to allay irritability of the stomach else internal remedies cannot be retained. When the disease is taken in its first or second stages it proves entirely manageable and these are indeed the only periods in which medicine can be usefull, The means which are used to effect this object, it is now my intention to examine singulatim, and as far as I may be able, explain the modus operandi of each. The first and one of the most important as I concieve, is Bloodletting in its various forms. This remedy has been long tried and is highly recommended by those who are

most capable of judging of its merits, In India where the disease has existed in it most violent form, and where remedies of every class have been resorted to, by medical gentlemen in the hope of finding some means of staying the disease and rescuing their fellow mortals from the grave, none have been found so efficacious as bloodletting— it is commonly resorted to as an adjuvant; yet it has been found in many cases of itself to prove a cure— persons have been submitted to its influence alone, and have recovered permanently, and who can doubt its action? Mr Sheppard, Surgeon, states that in a violent form of Cholera Spasmodica which prevailed on the coast of Brazil, bleeding "ad deliquium" was adopted in more than 40 Cases, and so completely was the disease subdued in consequence, that no other remedial means were required, In cases of well defined inflammation, which none at the present time will dispute, Venesection is looked upon as the only powerful means of controling the disease, Why then should it not be useful in this? This we have shown consists in an inflammation and congestion of the extreme vessels of the mucous membrane, because the sympathetic nervous system which controls and gives to this class of vessels its power of action, is diminished in its energy by the action of the noxious agent, If we abstract a portion of blood, then we do good in two ways, we take away

a part of this (as it were) stagnant fluid from the engorged vessels, thereby enabling them, by exercising the little power that may remain to them, to gather themselves up - to resume their natural caliber, and thus assist in the circulation; at the same time that we rid the heart of a portion of it's burden, The heart as we have seen has not its usual nervous energy imparted to it, consequently cannot contract with its accustomed force, but the blood which it has to distribute to the system is scarcely diminished in quantity; thus it has an unequal task to perform; now thus if a portion of this be removed, this organ is enabled to recover itself somewhat, and the circulation begins to go on regularly. Thus we see abstraction of blood generally or locally removes congestion & inflammation, the irritability of the gastro intestinal canal has been shown to depend in a great degree on the above mentioned abnormal conditions, consequently when these are removed, the irritability of that membrane subsides; But this is not the only good resulting from this measure; the functions of secretion and absorption are impeded, if not entirely suspended these have been shown to be owing to a diminution of nervous energy, which is the effect of the primary cause, but congestion which is a consequence of a want of energy in the vessels is the immediate cause in this instance of suspended secretion, for it has been long since ascertained, that when the secretory

vessels are filled from any cause beyond the point (which has been denominated the healthy or secreting) that the secretions then formed were viciated in quantity or quality — when by venesection, a portion of blood is taken away from the general system — a portion is taken away from these vessels also, which enables them (as I said before) to restore themselves to their healthy condition — a healthy action supervenes, and healthy secretions are once more restored. Thus we see some of the good effect which result from a judicious use of this depleting means, and such will always be its consequence, when the system is not reduced too low by the long continuance of disease "Venesection in the arm has most commonly resorted to, and this almost always answers the purpose designed; but when there is much local pain or oppression, the application of Cups has been productive of most decided benefit; they often relieve the pain and other local affections, and even sometimes develope the pulse without the loss of much blood. I cannot conceive exactly the manner of its action, I know it must be by the abstraction of blood, but is it from the vessels of the part affected or from the general circulation? If from the latter, then Cups applied to the hands, feet or head would relieve pain in the Abdomen as speedily as if applied over the part, but this is not the fact for ℥iv. of blood

drawn from the abdomen, will relieve abdominal pain as effectually as ℥ij or ℥ℨ℥vj- taken from the arm. The difficulty is not yet explained, Suppose we have inflammation of the mucous coat of the Stomach, by applying Cups over the Epigastric, we will in 9 out of 10 relieve the pain at a loss of less blood, than we could accomplish the same purpose by drawing it from the arm; now if there was any direct communication between the external vessels and those of the inflamed membrane, the reason would be plain because we, abstract blood directly from the part. However inexplicable its action may be, the benefit derived from it is no less; for local bloodletting can be resorted to when the system is so weakened, that it would be death to bleed from the arm. I have seen a patient who had been under ~~the~~ treatment for several months, and whose disease (Incipient Phthisis) having demanded a depleting course, was very much reduced. During the prevailing Epidemic he experienced an attack, he had vomiting, purging, pain Spasms &c- little hope of his recovery was entertained, for he was so reduced that it was feared his constitution would not sustain him under the action of remedies- he would not bear general bloodletting. what was to be done? (for in this case no confidence was placed in stimulants) Cups were directed to be applied as a last resource, hardly presuming

they would do more than afford partial relief: but the result was highly satisfactory, they had scarcely been on his body 15 minutes, before every bad symptom disappeared. Nothing more was done for him at that time, and in a few days he was as well as usual. It will not be necessary to say more here in regard to this means, enough has been said to show the necessity for it. The second class of remedies which I shall notice is Emetics, I am not aware that these have ever been used in India. In this disease indeed it seems at first view like making bad, worse, to administer an emetic; when we find the patient prostrate, his pulse weak and ~~feeble~~ small, his voice changing, his extremities and tongue cold, purging incessantly, and making constant efforts to vomit, in fact just on the verge of the Blue stage, it seems like madness to increase his vomiting and weaken him still more by giving an emetic! Would it not be better to give free doses of some narcotic, by which the irritability and vomiting might be lessened? No! I answer, there is no time to dally - something must be done now or never. And shall we give opium for instance in such doses as to stupify and render useless the only organ that remains undisturbed? What shall we gain by it? Will it overcome inflammation and congestion? Will it relieve

the extreme vessels of their load? Will it restore the secretions? Will it in the end better the condition of the Patient? But what will be the result of its action? If it be given in large doses as it must in order to effect any thing, and be retained on the stomach, which is not always the case, it produced for a while a cessation of vomiting and sometimes of the pain, this is accomplished however at the expense of the brain and spinal marrow, the energies of which under the action of this medicine, are completely paralyzed, and it functions entirely disordered. This is a temporary and trifling result compared to the deadly congestions which are established through its influence, and which are more to be feared than the disease itself No, some other means must be found. Let us then examine the merits of emetics in this disease, and see what has been the result of their application When an emetic is acting so as to produce full vomiting what effect has it upon the system? we find that the heart's action is lessened during the time, but the pulse is more full and open afterwards, We find the body covered with a profuse perspiration, the cutaneous capillaries filled, a revolution has taken place, the blood which had forsaken the surface has returned, the skin which was before dry and harsh, is now soft and moist

How has this been produced may I ask? We know that a dry, harsh and shrunken skin indicates a want of blood in the cuticular vessels, and the reverse can only be produced by soliciting blood from the internal to the external, and this has been accomplished by the Emetic which could only have been done by breaking up the internal congestions. Now then this is precisely what we wish to do, for we have shown this irritability to be dependant on congestion. It stops the vomiting in an other way — sometimes articles of food lay in the Stomach for several days in an indigested state, these prove constant irritants; thereby developing the disease. If a prompt emetic be given these articles are thrown up, the irritation ceases and the Stomach becomes quiet. We now see the manner in which emetics may do good, and cases can be adduced to illustrate the good effects which result. In order that an emetic may be serviceable, its action should be prompt, and for this reason it should be assisted if required by all possible means such as irritating the fauces with a feather or the finger and by draught of warm water, for if it induce only nausea and retching, it prostrates instead of reviving, consequently assists in establishing instead of breaking up the congestion and inflammation The articles used are the most prompt which the Materia

Medica" can afford. Mustard, Salt, Ipecac, Sulph Zinci &c have all been used. When the patient is extremely prostrate attended by all the symptoms of collapse the mustard mixture is preferable, since it not only produces prompt emesis, but is at the same time stimulating In the first or second stages where there is no symptom indicating extreme debility, the saline emetic or any other of a prompt nature will answer. The third class of articles is cathartics; these may be said to be only applicable in the first or premonitory state, at that period when the secretions begin to be vitiated, and on this state poured into the Intestinal Canal, irritating and inducing it to undue contraction. Then a mild, unirritating purgative is of much benefit, by cleansing the Canal of the morbid secretions and irritating fecal matter; they are useful in the same manner in convalescence, for when the secretions are being restored, they must of consequence be vitiated to a certain degree, and of course irritating in proportion. Those most in use are small portions of Ol Ricini & Tinct: Opii. — Calomel & Rhei, Rhei & Carb. Sod, Rhei & Cret. prep, Magnes, & Charcoal &c When there is much looseness of the bowels and appearances of depraved condition of the liver, pil Hydrarg. alone or combined with portions of Rhubarb and Opium are required. The Rhubarb seems to possess a slight astringent property which is very

applicable at this period. The Opium is valuable from its constipating effect, and its disposition to allay irritation. Castor Oil is a most valuable article when there is nothing more than a diarrhea, having for its immediate cause vitiated intestinal secretions; it not only takes these away, but from its nature exerts a soothing influence over the irritated surface. The fourth class is Diaphoretics; these are indeed called for, and would prove valuable adjuvants, but as it is, scarcely any benefit is derived from them. The only Diaphoretic means which have been made use of, are the Steam and Alcholic vapour Baths, warm water Baths, and sometimes the ~~internal~~ use of warm teas. The baths particularly the vapour have been found productive of much good, sometimes in conjunction with other means have restored patient even on the verge of the third stage. I have seen an instance in which the patient had been pulseless for some time restored by the single application of this remedy. The great objection to it, is that it leaves the patient in such a profuse perspiration, that unless he is immediately wiped dry, evaporation commences and leaves him in a worse condition than before. The prejudicial consequences which may result from the use of this remedy, may be somewhat obviated by the application of an absorbent powder which is to be carefully rubbed over the entire surface of the patients body,

The water bath is still more objectionable, for independant of the wet condition of the body, the fatigue which he has to encounter of getting into and out of the bath is so great to him in his enfeebled state, that what he gains by the bath is counterbalanced by the exhaustion consequent on the exertion These are seldom resorted to untill the stage of collapse comes on, when much benefit cannot be expected from them or any thing else. The other means viz warm teas of any kind are seldom productive of good, for at that period when they might answer the purpose designed, the stomach is generally so irritable, that it will not retain anything, or if it does, they must give place to some more efficacious remedy. I know however of one instance in which the patient was entirely neglected, not having been attended by any Physician, and consequently the disease was suffered to run its course. His friends not knowing what better to do, plied him with warm tea, when he vomited up one portion, they gave him another, and tho' for a time he continued to sink and was to all appearances dying, yet they continued their plan of treatment, and had after sometime the satisfaction of seeing him revive. Were I permitted to give an opinion founded on my own observation I would say the lancet and emetics were the best Diaphoretics for this malady. We now come to the fifth class or Stimulants, Under this head are comprehended both

diffusible and permanent. The diffusible I will notice first, and as there is but one mode of action and one effect; which is well known, it is useless to spend time in describing them; Something however is necessary to be said in regard to their therapeutic application. No class of remedies, it seems to me have been so much abused and so illy applied as these in this disease; that they have done good cannot be denied, and that they have been productive of mischief is equally evident, instances of the latter are far more abundant than those of the former. It seems to me that from the nature of the disease, they are only admissible in the commencement of the third stage, where the powers of the system are almost worn out by the continuance or violence of the disease, they should now be used, and those of the most powerful kind, for the purpose if possible of arousing the last energy of the nervous system, and restoring the circulation, and when they do this, they have done enough, and should be immediately suspended, a longer application is productive of evil, if the disease is disposed to terminate in health, but unfortunately, the malady is so violent and reduces the system so much, that the almost invariable consequence is a disposition to form Typhus, The patient now needs support, and stimulants and tonics cannot be dispensed with.

When they are applied in the first or second Stage, they are necessarily injurious, almost always aggravating the symptoms. No man in his senses would give Stimulants in the inflammatory stage of Pleurisy, or Hepatite or Brachnite, if he did he would be looked upon as an Empiric. Why then give them in Cholera? This is an inflammatory and congestive disease, and every one who has witnessed a Post mortem examination must know it. Why then should they be given? We must not be deceived by appearances, the debility which we see and ~~of~~ which the patient complains is only apparent. How is it with other diseases which resemble this? for instance Yellow Fever. Here we have the same appearances of weakness, apparently calling for stimulants, but if given, the symptoms are aggravated, Dr Rush who was well acquainted with this last malady, gives it as his opinion founded on experience and observation, that stimulants were productive of untold evil, that the debility was only apparent, that it depended on internal congestion which being removed by depleting measures, the debility also disappeared. So it is with this disease, at least as far as my knowledge and observation extend. The stimulant which have been made use of, are Alcohol and Alcoholic liqueurs, Camphor, Quinine, Guiacum Ether Ammonia, and many others, all of the most diffusible nature.

By permanent stimulants I mean Sinapisms Vblisters,
for in no other way can I understand their action,
than by viewing them as such, They are supposed
by many to act upon the principle of counter irritation
and revulsion; this may be, I do not pretend to deny
it, I am satisfied to consider them as stimulants
and as such can readily conceive their manner of acting
Sinapisms are much used in this disease, and their
application is very beneficial in some conditions or
states of the disease. It seems however that they are
only needed when there is but slight inflammation or
a tendency to produce this condition, When the cutaneous
vessels having just lost or about to loose their tone,
give way to the pressure of the fluid, then a Sinapism
applied over the part, seems to impart indirectly such
energy to the weakened vessels, that they recover themselves
and complete the part of the circulation entrusted to
them, thereby obviating or breaking up local congestions
In the second stage however, when the aggravated symptoms
show that inflammation and congestion are fully established
the use of Sinapisms like that of all stimulants is productive
of much evil, In the third or last stage they are
again called for, and often by the power which they
possess of producing a speedy and permant stimulus,
raise the nervous system and restore reaction.—

They cannot possibly do harm at this time, if care is only taken to watch the patient, and remove them when reaction is established. With regard to Blisters, I believe their mode of acting is similar to that of Sinapisms. They require a longer time to produce effect, but their impression is more durable - They are not much used, in rapid cases, death ensues before vesication is produced. The proper time for their application is in the secondary fever, when the patient has lived over 24 hours, and has fallen into a Typhoid state. I can better indicate the state most favourable to their action by supposing a case. We have a patient who by proper means has been relieved from the more violent symptoms, but is still in a dangerous situation the diarhea and disposition to vomit still remain, notwithstanding the depleting means have been used; we cannot resort to these again - the patient is now so reduced, that death would be the consequence of a depletion. We now resort to the Blister which is productive of the happiest results; it is at this period only that Blisters can be serviceable when the inflammation still exists, tho' the heart action is controled, for the power of the capillaries is so exhausted that they cannot restore themselves to their natural calibre and they consequently remain choaked up with the fluid As soon as the Blisters take effect, a sufficient stimulus

is imparted to them, the result of which is that they resume a healthy condition, and the disease is dissipated An astringent Injection has been found very serviceable at this period of the disease, often of itself restraining the discharges without producing the slightest inconvenience It is composed of a decoction of Oak Bark and Galls arrow root and Tinct Opii, Astringent Pills have also been used for the same purpose — External Heat has been much resorted to in this disease, the indications for it are very plain, and it cannot possibly do harm It is applied in various ways, as by bottles or tins of hot water, bags of heated sand or salt, and sometimes heated air is introduced under the bed furniture. It is supposed to act more by preventing the escape of the natural warmth of the body than by imparting heat to it, Its action is consequently rather negative than positive, The Sixth class of remedial means is Narcotics Opium and its preparations are the articles which are chiefly used, This is indeed valuable in some stages of this disease, but as far as I have observed, it cannot be given at all times, much less depended upon alone, There has been much dispute in the medical world respecting this drug; some depend entirely upon it, others discard it in toto, Some contend that it relieves pain, checks vomiting and purging, calms the system & dispels the disease

others again assert, that they have not observed these results but on the contrary an aggravation of symptoms. In the common Cholera Morbus I have every reason to believe that it is of itself competent to relieve the patient, but in a vast majority of the cases of the prevailing epidemic where it has been used in conjunction with stimulants before any depleting means have been adopted, I can with safety say as far as I have seen, that it has aggravated the symptoms. When the patient has been properly depleted, and nothing more than an irritable condition of the membrane remains, Opium acts like a charm, subdues the irritation and renders the patient calm and comfortable. The bad effect which result are as much to be dreaded, as the disease, The administration of Opium is mostly followed by headache, vertigo, drowsiness, &c, all which are dependant upon local congestions in the head This is the result generally, but when much of the article is used in Cholera, local congestions are sure to be established The opinion which I have advanced in regard to the utility of this remedy, is formed from observing its effects in this disease, and I moreover believe, that any case which is curable, may be cured as quickly and as permanently without it as with it. The Seventh and last article of which I shall speak is decidedly one of the most important. Without Calomel the disease would sometimes

prove unmanageable. This fact is universally known and admitted – wherever the disease has prevailed most extensively and violently, there has the efficacy of Calomel been sworn in conjunction with bloodletting. How it act I will not stop to enquire, it is immaterial at present whether it acts specifically on the liver and its appendages or whether it effects it secondarily. We know that congestion exists, and that the secretions are impaired and often entirely suspended, it suffices then that Calomel is eminently serviceable in correcting secretion, in breaking up congestion and in emulging the Liver. It is with this powerful and useful remedy as it is with all others, it has its advocates and does not lack for enemies. Some Physicians are so confident of its powers, that they have relied almost exclusively upon it, some have used it freely in conjunction with other remedies, others again have refused to make any use of it at all. As far as I have been able to observe, it appears that neither of these ultra-plans should be adopted, as an adherance to either of them cannot be productive of good. We have however the experience of one man, a physician of Hull, in support of the ultra-mercurial plan, and if he can be relied upon it was, to say the least of it, very successful. Calomel has been recommended in every stage of this disease. When the premonitory symptom, Diarhea comes on, it should be met by proper

doses of Calomel alone or combined with Rhei Soda. Chalk, Opium &c according as the symptoms may demand. In the 2nd & 3rd when the secretions are in the one case impaired and in the other entirely suspended, the indication for its application is yet stronger, and should be continued untill the secretions become natural or until Ptyalism is produced When mercury has impregnated the general system, the patient begins to recover, and with proper care he may be pronounced safe. I have known an instance where a second and fatal attack had come on notwithstanding the person had been salivated, it was induced by the patient partaking largely of improper diet. It appears that very slight causes in convalescence are sufficient to throw the person into a relapse, which is often fatal, hence the necessity for great care during the period of recovery. At this time the patient's appetite is very keen, and unless he is prevented, will eat those articles which are improper, and dreadfull is the consequence, He should be permitted to have small portions of Arrow Root, sago or Beef tea, as he improves he might partake of thin gruel, Milk and Mush, Milk & Rice, or of any articles which are nourishing, unirritating and easily digested — he should be debarred the use of meats, and all the garden vegitables except good potatoes which should be roasted This diet should be continued untill he is entirely restored

when he may resort to his usual diet; begining with small quantities and gradually increasing - Sometimes it is found nescessary in convalescense to resort to the use of Tonics; these are very applicable and should be given whenever they are required. I have now done I have adopted an idea with respect to the predisposing and proximate causes, and have adduced facts and arguments in support of each, How true these opinions may be, time and close observation will alone determine The symptoms and pathological states have been noted down as they occured in those individuals whom I had an opportunity of seeing constantly, and the remarks on the efficacy of the different remedial agents have been founded on my own observation, and the result of the different modes of practice adopted in the Institution to which I had free access. I am well aware that some points that might be deemed material to the completion of an elaborate treatise have been omitted; My apology for this apparent neglect will be found in my humble desire to express those opinions, which I have had an opportunity of forming from personal observation, and to remark those remedial agents, the effect of which I have witnessed in the several stages of the disease.

I will now by noticing the symptoms and post-mortem appearances of a few cases, show more conclusively the nature and seat of this disease -

1st Case - Henry Biller - at 35. 2nd attack - Complained in the morning of Diarrhea, for which he took of Calomel & pulv Soveri ana grs x - this however he soon ejected - Was seen again in the afternoon at 3 O'clock, was now in collapse, perfectly sensible, complains of nothing but dryness of the fauces - thinks himself much better, pulse scarcely perceptible; tongue cold, eyes sunk, skin bluish particularly about the head & extremities, surface perfectly cold - vomiting & spasms have ceased - purging still continued - ℞ Ether Sulph ℥j Spts Ammon ℥j Black drop gtts xx - hot applications - Sinapisms to abdomen legs & arms - Stimulating mercurial frictions - The ultra-Stim plan was pursued, notwithstanding which he continued to sink & died at 3 P.M. next day -

Autopsy - Lungs healthy but partially collapsed - the right side of the Heart contained black blood - so did the Aorta - Liver natural - Gall bladder filled with a viscid greenish bile - Pancreas healthy - Kidneys likewise - Bladder firmly contracted - abdominal vessels contained black blood - external appearance of the floating viscera indicative of some congestion - Internal aspect - Stomach - Mucous membrane chequered with patches of vascular dots - in other parts arborescent points

indicating submucous congestion. pyloric portion of the membrane much hypertrophied- glands very distinct- same appearances obtained throughout the superior portion of the intestinal tract, tho' not so extensive- glands enlarged and villa hypertrophied- some portions of the membrane blanched and offering little resistance- many of the solitary glands above and below the Ileo-colic valve showed signs of incipient ulceration, having black dots in their centre resembling Variolus pustules- the superior portion of the Colon more remarkable for chronic inflammation & congestion, membrane much thickened- glands enlarged- mesenteric glands also larger than usual- This patient had laboured under chronic Diarrhea for the 12 months preceding his death.

2nd Case- — Spencer æt. 51. A strong healthy woman had had little or no sickness, was well at bed-time, was seen at 1½ O'clock A.M. had had two watery evacuations- no vomiting but experienced slight nausea when at Stool. pulse soft & of good volume had no pain or spasm in any part. Ordered to take of Tinct. Opii ℥j and repeat in half an hour if required, warmth to be applied and the patient to be kept comfortable- Seen again at 5 O'clock A.M. completely collapsed- pulse entirely gone- Treatment was ultra stimulant died at 8 O'clock A.M.-

Autopsy- Organs generally healthy, except those which exhibit the morbid appearances of Cholera- Stomach- Cardiac portion had a slight Chocolate hue, dotted with distinct whitish enlarged glands- pyloric glands also enlarged- membrane covered with

several inflammatory pointed patches- no congestion- some sanguineous effusion at the Pylorie extremity- membrane of the superior portion of the tract of ashy whiteness- villæ hypertrophied and appearing fleecy in water- membrane of the Ileum much injected, in some patches the blood might easily be forced out of the capillary vessels upon the membrane- glands somewhat enlarged near the Caput Coli- Large intestines- in some places were blanched in others inflammation existed-

3rd Case- Wm Roland æt 22. A man of tolerable constitution had been under treatment several times during the year- Had had Cholerine 12 days before, and was entirely relieved when discharged from the Hospital- August 21st 11 Oclock P.M. brought into the hospital labouring under the following symptoms- viz Vomiting and purging rice water fluid with whitish gelatinous flocculi- Violent Spasmodic affection of the muscles of the extremities and jaws- pulse small, slow, and somewhat feeble- great jactitation- abdominal tenderness- tongue, breath, and skin cold- features collapsed- breathing laborious- urinary secretion suspended- Treat= Vapour bath- Stimulating frictions- hot applications- Sinapisms- Wine- Ether- Ammonia- Black drop- repeated at intervals- but so irritable was the Stomach that no article was retained for a moment- Stimulating Mercurial ointment- rubbed on the surface- no improvement- pulse becoming weaker- 1½ Oclock- A.M. entirely collapsed- pulseless- Skin cold, moist- shrunken, and livid- every indication of immediate dissolution

Autopsy. Muscles distinct- very few morbid appearances. Mesenteric veins congested- Bladder contracted- aorta filled with black blood- Lungs healthy but collapsed. Liver, Spleen & Kidneys healthy- Internal aspect. Stomach- Several small vascular patches and a few of arborescent appearance. Pylorie glands more distinct than natural- membrane at this part somewhat hypertrophied and ramollised & injected- covered with a glairy mucous and filled with Rice fluid- Duodenum- membrane little changed- a few vascular points- glands distinct. Jejunum, membrane generally of a roseate ashy colour, covered with a soft gelatinous substance. Ileum membrane more vascular, dotted points and arborescent congestion, all the glands very perceptible- large quantity of the usual fluid- Colon membrane upper portion vascular- rather blanched below. Rectum- blanched.

In none of these Cases was there any examination of the Brain or Spinal Cord- In two which were afterward inspected, no morbid appearances could be observed- In all the bodies which I have seen examined, the pathological marks were confined almost entirely to the mucous membrane of the Stomach and Intestines-

An inaugural Dissertation
on
Muscular Distortion of the Spine
Submitted to the examination
of the
Provost. Trustees and Medical Faculty
of the
University of Maryland
For the degree of Doctor of Medicine
by James J. Jewett
of New York

1833

absent

To

Henry W Webster M.D.

This dissertation is dedicated

As a slight evidence of the respect entertained

For his character and talents

By his friend

The Author

Muscular distortion of the Spine.—

Distortion of the Spine is produced in various ways; and it is chiefly owing, to a want of due attention to this fact that so much confusion has of late prevailed, respecting the real nature of the particular case to be treated, and the particular treatment that ought to be adopted.

This disease, under this general name, was first introduced before the public, with any considerable degree of notoriety, by Mr Pott, as connected with a palsy of the lower extremities; and as dependant upon a scrofulous diathesis, which at length, fixed itself upon some part of the vertebral column—softened, or rendered carious, the bones that became affected, and thereby, necessarily produced crookedness, and a morbid pressure upon the right line of the Spinal marrow.— This is a case that often happens, and a like effect occa-

-sionally occurs in a very early period of life from a rhachetic, instead of a scrofulous diathesis: tho' from the greater facility, with which the principal of life is able to adapt itself, to deviations from the ordinary laws, at this latter period, than afterwards, a paralysis of the lower extremities is less common; and even the mischief, incident to a misformation of the chest, less fatal.

So that, while the disease of a hump-back in puberty, or in later life, occasions a serious injury, to almost every function, - we often find it occur in infancy - without making much encroachment on the general health. In all cases of this kind, the malady is primarily, and idiopathically, an affection of the vertebral bones, - and there is always to the touch, a mollescence in their structure, or a manifest soreness and ulceration. And from the peculiar contour of the vertebral column, the distortion is always from within, outwards, forming what has been called an angular, in contradistinc

tion to a lateral curvature. So that the characters of the osseous gibbosity, are sufficiently clear and specific.—

But the muscles of the vertebral column, and their appendages the, ligaments, and cartelages into which the latter are inserted, are of as much importance, to its healthy contour, as its bones, And hence any morbid affection in any of these moving powers, may as essentially interfere, with the natural curve of the Spine, and the well being of the constitution, as a disease of the vertebral bones.— — — — It is possible, that there are all affected in particular instances, sometimes separately, sometimes jointly, but there can be no doubt, that the muscular fibres of the neck, back, and loins, those, on which all the complicated movements of the vertebral column depend, and which give rise, to more than three hundred distinct muscles in the whole are most frequently thus enfeebled, either in part or in their entire range; though an enfeebled state of any of these organs, must

must produce an inability of preserving the Spine in its natural sweep and equilibrium.—+—

And where distortion proceeds from this cause, the indications are in most cases, as clear, as where it is the result, of a diseased condition of the bony structure;— for first, the morbid curvature, instead of being from within, outwards, takes place laterally the crookedness being manifestly, on the right or the left side, according as the muscles on the one side or the other, overpower the action of their antagonists; there is little or no soreness upon pressure, unless indeed the bones or their cartilages, should ultimately become affected, from the protracted state of the disease:— and the distortion being less abrupt, or angular, than in the gibbosity, the lower limbs are less affected with paralysis.———

The distinction therefore between the osseous and the muscular distortion of the Spine, is clear and evident.—

There can be no doubt, that the spinal distortion of the present day, is a disease far more frequently, of the muscles, and their appendages, than the bones; and is the result, of a want of equilibrium, between the antagonists forces on the one side and on the other of the vertebral column: as well those of the trunk, as of the back:— in consequence of which, this column is deranged in its natural sweep, and either twisted or defected in particular parts, or in its whole length; all the other changes in the general figure, and deviations from the general health, being dependant upon this primary aberration.

It is hence, a disease of muscular debility, or irregular and hence loose action of the fibres of the yielding muscles, and an inability to resist the encroachments of their more powerful antagonists.

The complaint almost invariably shows itself, from the age of puberty to that of mature life; though sometimes

later, and is nearly limited to females; and among female, to those of delicate habits, and who are especially disciplined in the false and foolish rules for obtaining a good figure.—

The complaint first shows itself by a general listlessness and aversion to muscular exertion of any kind, and an unwonted desire to loll about—

No signs of constitutional disease, however, are as yet manifest: the nights are not disturbed, the appetite does not fail, the evacuations are regular, and the pulse unaffected.— There is soon afterwards, a sense of weariness, and even at times uneasiness, about the back, especially the loins, and if the muscles of these parts be minutely examined, several of them will give proof of flaccidity and extenuation If no steps be taken, at this time to arrest the disease in its march, or if steps taken be injudicious, or inadequate, the vertebral column will soon be involved in the morbid action.—

from the morbid contest, which is continually going on between the antagonist muscles, their internal organization must necessarily become greatly affected, and the growing debility which is manifest in the contractile and extensile power of their aggregate fibres, will enter into every part, of every separate fibrile, and affect their vis insita. The flow of nervous power instead of being uniform, will take place in jets, a clonic though occult agitation, will succeed to a tenor of measured energy.—

The debility or irregular action of one muscle, will spread by sympathy or association to various others; and from the derangement of the bones of the spine and the chest, the functions of respiration, and digestion, and consequently in a greater or less degree, all the functions of the body, must be interfered with, in their respective powers; so that there is scarcely any other disease, but may follow, and the frame will become

generally emaciated. As the proximate cause is debility of the extensor muscles of the back or loins, on either side, the occasional cause will consist in whatever has a tendency to produce such debility. Too rapid growth is a frequent source of this complaint, a casual strain of the muscles on either side, is a source not less common: chlorosis or any other constitutional weakness, may lead to the same effects, and assuredly the use of stiff and girding stays or any other part of that fashionable compression which is designed in the disciplene of the present day, to mould the form into a somewhat different and more graceful shape — than perhaps the niggard hands of nature may intended.

The tendency of all these to produce deformaty, where it does not exist, and to aggravate it, where it does, is forcebly pointed out by Dr Dodds. who however thelps seems to censure with rather more acrimony than needful — the whole system of schooldrilling education

as practised in many fashionable establishments — A course of discipline for giving grace and elegance to the growing form — if conducted with judgment, devoid of rigorous compression to the expanding organs, and allowing a sufficient alternation of relaxation and ease, so far from being injurious, to the health and strength of the general frame, has a natural tendency to invigorate it.—

But the greater frequency of the lateral distortion in our own day, compared with its apparent rarity in former time, together with the increased coercion laid down, seem clearly to indicate, that some part of its increase inroad at least, is chargeable to this source — If, instead of adding to the embarrassment of children's dress by iron restraints, parents would throw all aside, and give nature an opportunity of exerting her own powers, and if in cases of manifest debility, recourse were had to friction, bark, and cold-bath-

ing, with due attention to air, diet, exercise, and rest, the children of the opulent, would perhaps stand a chance, of being as stout and as straight, as those of the laborious poor.—

The simple fact is, that the system of discipline is carried too far, and art, which should ever be the handmaid of nature, is elevated into her tyrant.—

In rustic life, we have health, and vigour, and a free use of the limbs, and muscles, because all are left to the impulse of the moment, to be exercised without restraint.— the country girl rests when she is weary, and in whatever position she chooses or finds easiest, and walks, hops, or runs, as her fancy may direct. when she recovers herself, she lends her body, and erects it as she lists, and the flexor and extensor muscles are called into an equal and harmonious play. There will generally be some degree of awkwardness in her attitudes and movements, and the greatest scope of female discipline, should extend to correcting

thes. with thes it shoud begin, and with thes it shoud terminate— we may modify the action of muscles in common use, or even call more into play, than are ordinarily exercised, as in various kind of dancing: but the moment we employ one set of muscles, at the expense of another, keep the extensors on a full stretch from day to day, by forbidding the head to stoop, or the back to bend, and throw the flexors of these organs into disuse, we destroy the harmony of the frame, instead of adding to its elegance, weaken the muscles, that have the disproportionate load cast upon them, render the rejected muscles torpid and unpliant, sap the foundation of the general health, and introduce a crookedness of the spine instead of guarding against it.— The child of the opulent, while too young to be fettered with a fashionable dress, has usually as much health, and as little tendency to distortion, as the child of

the peasant, but let these two for the ensuing eight or ten years change places with each other; let the young heiress of opulence be left at liberty and let the ~~young~~ ~~lady~~ peasant girl be restrained from her freedom of muscular exertion in play, and exercise of every kind, and, instead of this, let her sit bolt upright in a high narrow chair with a straight back, that hardly allows of any flexion to the sitting muscles, or of any recurvation of the spine, and let the whole of her exercise instead of irregular play and frolic gaiety, be limited to the staid and measured march of melancholy, in the Penseroso of Milton

"With even step and musing gait"

to be regularly performed for an hour or two every day, and to constitute the whole of her corporeal relaxation, from month to month, girded moreover with the paraphernalia of braces — and there can be no doubt, that while the child of opulence, shall be acquiring all

all the health and vigour her parents could wish, tho' it may be with a colour somewhat too shaded with brown, and an air somewhat less elegant than might be ~~desired~~, the transplanted child of the cottage, will exhibit a shape as fine, and a demeanour as elegant, as fashion can communicate, but at the very essence of a languor and relaxation of fibre, that no stays or props can compensate, and no improvement in figure can atone for.

Query, it is not necessary in order to acquire all the air and gracefulness of fashionable life, to banish from the hours of recreation, the old and rational amusements of Battledore and Shuttlecock, or any other game that calls into action the bending, as well as the extending muscles, gives firmness to every organ, and the glow of health to the entire surface.—

Such then are the best preventative means against muscular or ligamentous distortion of the young female frame, and especially of the vertebral

column, in conjunction with pure air, plain diet, and well regulated hours of exercise

If, notwithstanding such means, a tendency to crookedness on either side should manifest itself, no time should be lost in making an accurate examination of the spinal chain, and if such tendency be attended with pains about the pelvis, and lower extremities, our attention should be particularly directed, to the state of the vertebral, seats in the centre of the different flexures of the column, but especially of lumbar, for it is probable in this case, that one or more of them may be in a state of inflamation. — Where this is case the usual means of taking off inflamatory action, and especially depletion, by cupping glasses, should be instantly had recourse to. But where the cause is debility alone, and a want of equilibrium between antagonists muscles, rest, recumbation, general tonics, especially myrrh, steel, and in many cases, sulphate of quinine, sea-bathing, and in effect whatever may

tend to introduce a greater firmness of fibre, and general vigour of constitution, constitute the best plan of treatment. — To these, should be added a series of friction, or manipulation applied down the whole course of the spine, and particularly that part of it, where the distortion is most evident, and it may be of advantage, to direct the course of the manipulation, in a particular manner, to such transverse processes of the vertebrae, as appear peculiarly elevated, so as artfully and by insinuation to assist in restoring them to their proper position — It will also be found expedient in most cases to oil the hand with oil or some other unctuous substance in order to prevent the friction from irritating or excoriating the skin. —

It has been made a question of some importance which is the best position of a patient to rest in, who is labouring under the complaint before us, as also what is the best

formed couch, for him to recline upon?

All seem to agree that the couch should be incompressible, or nearly so, in order, that the weight of the body may be equally sustained and not one part elevated and another depressed; and hence a mattrass is judged preferable to a bed, and a plain board is by many, esteemed preferable to a mattrass.

It is also, very generally argued, that the board or mattrass should form an inclining plane, so that the body, placed directly on the back, may be kept perpetually on the stretch. —— It is hence, perfectly clear, that while that position and that mode of dress, are most to be recommended, which afford the greatest degree of ease and comfort, gestation pure air, sea-bathing, and every other kind of tonic, whether external or internal, are also of the utmost importance. — And that perfect and contented rest, in whatever position it be taken, is far less efficacious, than when inter-

rupted by such motion as can be borne thro' with some degree of fatigue, and the other tonic auxillaries just adverted to.

In extreme cases, such exercise should be post-poned untill the debilitated and most probably irritable organs, have lost some of their disease: yet the motion of friction, or manipulation, by a skilful and dexterous hand, may still be adverted to, and should supply its place.——

An
Inaugural essay
on
Vision
Submitted to the examination
of
The Provost, Trustees
and
Medical Faculty
of the
University
of
Maryland
for
The degree of Doctor of Medicine

on the seventh day of March 1833
by
John. W. Greetham

To W. Donaldson M.D.

Dear Sir,

To you I have dedicated this inaugural essay, from motives of sincere gratitude for the many favours you have lavished upon me; not only since the commencement of my Medical studies but throughout a great portion of my life.—

Permit me also to join my prayers with all who know you, for the complete restoration of your health and the prolongation of that life which has been spent with no less honour to yourself than usefulness to all whose good fortune brought them in your way.—

I am with great esteem,

your affectionate nephew & pupil,

Jno W Greetham

An inaugural essay on Vision.

In order to obtain a correct idea of the sense of sight it will be necessary first to understand the organ through which we take cognisance of all external objects, & without which we could never form a correct idea of the form, size, colour or distance of any object whatever.- At the same time I must remark that this sense is by no means independant of the others, more particularly of that of touch; for by this latter we are enabled to correct the errors into which our sight would otherwise continually lead us.- For example, a man who had been born blind & who consequently never had an opportunity of comparing sight with touch, would not be able to say whether a ball presented to his newly acquired sense

of

our

of vision were round or square, much less would he be able to estimate colours & distances for it is only by comparing the relation which one object bears to another that we can judge whether an object be far or near, to the man whose sight had been just restored all objects would appear equally distant; he would as soon put out his hand to reach the moon as an apple within a foot of him. Light gives colour to all objects, & is the medium through which the ideas of those objects are conveyed through the organ of vision to the sensorium commune. — My remarks will be arranged in the following order; having described the eye; I shall endeavour to explain how light produces vision & lastly it will be my object to examine into the manner in which sight is connected with the other senses, with the hope of elucidating the phenomena of supernatural appearances & occular spectra. —

The Eye.

The eye is composed of four orders of parts.—
1st Those which defend it from external injuries & afford a safe & commodious chamber for its reception.—
2nd Those which support it in its situation & adjust it to receive the impression of external objects.—
3d The organ itself.—
4th & lastly, those parts by which the idea is conveyed to the brain.—

The cavity for the reception of the eyed is called the orbit & is made up of the os frontis, a portion of the sphenoid bone, os ethmoid, os unguis, nasal process of upper maxillary bone & orbital plate of same bone, os palati & os malæ.— Its form is somewhat of a quadrangular pyramid; it is contracted at its orifice & enlarged within; the side next the nose extends backward in nearly a straight direction, the three other sides are considerably oblique.— On its upper & outer surface is a fossa for

for the reception of the lacrymal gland
In the Posterior part of the orbit are those
apertures, the foramen lacerum, formed
by the Sphenoidal & sphenomaxillary fis-
sures.- & the foramen opticum. —— That por-
tion of the os frontis called the superciliary
ridge, the os mala, superior maxillary bone,
& os nasi are all of them eminently quali-
fied from their situation to protect the eye
from blows, next a fatty substance is
always found in the posterior part of the
orbit, forming a cushion for the globe
of the eye to rest upon, consequently
rendering a blow less injurious than if
it were in contact with the bone.- Next
the superior & inferior palpebra, the supe-
rior being the larger & more moveable
it is supplied (besides the orbicularis
muscle which it has in common with the
inferior) with a muscle proper to itself,
viz. levator palpebra superioris, which, is
fur-

furnished with a branch from the third pair of nerves.- The eyelids are made up of these muscles, a cartilage, skin, cellular tissue & a mucous membrane; the angles formed by the junction of the superior & inferior palpebræ are called external & internal canthus.- The lids are partially transparent & are furnish with hairs, growing upon their edges; they are intended to secure the eye against the introduction of extraneous substances, to modify the light & by their habitual motion to spread the tears & fluid secreted by the meibomian glands upon the surface of the eye ball.- The cartilages are called the tarsi & are principally intended to give shape to the lids.- The lacrymal glands are situated in a depression of the orbital plate of the frontal bone, they secretes the tears, which are conveyed by six or seven ducts to the conjunctiva, when they are poured upon the globe of the eye

eye in order to preserve it from the contact of the air, to wash out extraneous substances & with the Meibomian humour to lessen the friction incident upon the constant motion of the parts.- The Caruncula Lacrymalis, is a small gland serving to direct the tears into the Puncta Lacrymalia near which they are situated.-
The Puncta Lacrymalia are small openings which serve to convey the tears into the Lacrymal ducts which arise from the former & convey them into the Lacrymal Sacs & these empty their contents through the ductus Nasalis into the nose.-
The Meibomian glands are very numerous compound follicles imbedded in the Tarsi- each of which is furnished with a small duct which pours the fluid secreted into cysts situated about these ducts.- They are always filled with the Meibomian humour, which is principally composed of Albumen, but be-

becomes thick & gummy when it is exposed for any length of time to the atmosphere, during sleep it generally collects & hardens in the internal Canthus, sometimes, (particularly in the diseased state) all along the edges of the eye lids, gluing them together so as to render it difficult & painful to separate them.— Each duct has an almost imperceptible opening in the eye lid near the margin whence it pours the humour upon the eye, (whenever pressure is exercised which must necessarily be upon the closing of the palpebræ,) to mix with the tears & assist them in lessening the friction caused by the perpetual motion of the eye ball.— The eye brows are formed by the superciliary ridges or edges of the orbital processes of the os frontis. They project considerably over thes eyes and thus protect them from external violence, the hairs with which they are furnished, assist them in modefying the

the light, more particularly when we frown; they also serve to turn the perspiration toward the nose, thus preventing it from running into the eyes.- Thus we find all this complicated arrangement, to be necessary to preserve this very delicate & important organ from external & internal violence;- shewing the wisdom of the great Creator in guarding with particular care every organ, which by its loss would endanger our lives or be of serious inconvenience to us.-

2nd of the parts which support & adjust the eye.- We will first consider the Tunica conjunctiva, more especially as it seems to be the connecting link between the last order & the one now under consideration.- It extends from Tarsus to tarsus & from canthus to canthus, lapsing over the anterior part of the cornea; thus forming a smooth surface for the globe to move in & preventing too much friction between the globe & palpebræ.

4

It is also intended to prevent extraneous substances from passing to the back part of the eye & is its principle means of support.— Next is the Tunica Albuginia, which is merely an expansion of the tendons of the four recti muscles, now to be described.—

The eye is furnished with six muscles four straight or recti & two oblique.— The straight ones are the rectus superior, rectus inferior, the abductor & adductor; all of which arise tendinous from edge of the optic foramen & are inserted by broad flat tendons into the sclerotic coat, when they unite & spreading over the ball of the eye to within a few lines of the cornea form the tunica albuginea.— The obliquous superior arises likewise from the edge of the foramen opticum, & passing through a cartilaginous ring on the inside of the internal angular pro-

cap

process of the os frontis & is inserted into the tunica sclerotica, by a broad tendon between the attollens oculi & optic nerve. It rolls the eyd & turns the pupil downward & outward.—

The obliquus inferior arises arises from the orbital process of the superior maxillary bone, near the os unguis & is inserted into the sclerotic coat by a thin tendon between the adductor muscle & optic nerve; it draws the pupil upward & the globe forward & inward.— all these parts are plentifully supplied with blood by the ophthalmic artery, which papes through the foramen opticum & is distributed in innumerable branches to the muscles lids & coats of the eye; the blood is again returned to the general circulation by means of the ophthalmic ~~artery~~ vein, which papes out through the same foramen at which the

the artery entered & terminates in the cavernous sinus.—

The globe of the eye.

The globe is made up of the different coats by which it is attached to the socket & three transparent humours enclosed in the membranes.—

The first coat is termed the sclerotic, it is exceedingly strong & opaque, in the anterior part of it is placed the lucid cornea a perfectly transparent membrane.— It is fixed in the sclerotic coat in much the same way that a chrystal is placed in a watch.— It is freely supplied with blood vesels which however only circulate white blood.—

The second or Chorroid coat extends as far foward as the sclerotic leaving a space for the uvea which is supplied with two sets of fibres, a circulating & a radiating for the purpose of contracting or enlarging the pupil as

as the light to be received is greater or less; defending the eye from too great a flood of light by the contraction of its circular fibres & enlarging by means of the radiating fibres to take in a sufficient quantity for perfect vision when there is a deficiency. — These muscular fibres have now been demonstrated, although for a long time it was doubtful whether they existed in reality or only in the imagination. — It is attached to the Choroid coat by means of the ciliary ligament; which is in fact only cellular tissue. —

The Choroid coat in common with the other coats of the eye is supplied with an abundant supply of bloodvessels, which are very minute but still large enough to convey red blood through its posterior part, whilst on the anterior, white blood only is circulated. —

The next coat is the retina, an expansion of nervous matter, (according to some anatomist of the optic nerve & only connected with the optic nerve, as is supposed by others.) which receives the picture of the object, the idea of which is to be conveyed to the brain, by means of the optic nerve, for although some branches of the fifth pair are essential to sight they do not assist in conveying the idea, but are only to regulate the eye so as to receive it. - That these branches are necessary is proved by the fact that their division will cause as complete blindness as the division of the optic nerve. —

For the purpose of absorbing the superabundance of light, which passes the iris there is provided the Pigmentum Nigrum, a black substance supposed to be secreted by the vessels on the Choroid coat. - It is situated between the Choroid & Retina. - The

use

use of this Pigment is pretty well ascertained from the fact, that it is entirely wanting in those animals which delight in darkness.

All the coats of the eye are plentifully supplied with a very minute net work of blood-vessels, so small indeed that they are not in general of sufficient capacity for the admission of the red globules. — Inflammation however enlarges them & we sometimes see the whole eye injected with red blood. —

The humours of the eye come next under our consideration. — The first, or vitreous humour is transparent & composed of very minute cells in which a fluid of the consistence of albumen is deposited; it occupies the posterior chamber of the eye. In the anterior part of this is lodged the chrystalline lens, which is placed immediately behind the pupil in order to receive all the rays of light which pass the iris. Anterior to this & occupying the anterior

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chamber of the eye, is the aqueous humour, divided into two parts by the iris, that anterior to the iris being the larger portion. These different humours are intended to refract the rays of light, which enter through the lucid cornea so as to bring them to an exact focus upon the retina; in the same way that the representation of an object is made to pass through a double convex lens & to appear on a piece of white paper in a darkened chamber. Why they should not appear inverted to us as they do upon the paper I shall not at present attempt to explain, but proceed with a description of the Nervous System of the eye.—

The optic nerve enters through the foramen opticum & penetrates the sclerotic coat to form or according to some anatomists to join with the retina.— This is the nerve destined to convey impressions to the sensorium commune & it is the only

means

means of conveyance, although there are others yet to be described which are absolutely essential to vision. —

The Motores oculorum or third pair of nerves enter the orbit through the foramen lacerum to be distributed, upon the rectus superior, rectus inferior, adductor & obliquus inferior & to the lenticular ganglion, a smaller branch is distributed upon the palpebra superioris. —

The Nervus patheticus enters through the same foramen to supply the obliquus superior. —

The ophthalmic is a branch of the fifth pair & finds entrance in the same way as the two last. — It has three branches; a frontal, a nasal & a lacrymal; the lenticular being a branch of the nasal branch of the 5th pair with a branch of the 3d pair. — The continuation of this nerve forms the superciliary. — It divides into the supertrochealis and

and frontal nerves. — The first passes to the orbicularis occuli & frontal muscles; the other being the proper frontal nerve we have nothing to do with here. — The nasal branch sends off a smaller branch to go to the lenticular ganglion & has been called by some Anatomists the lenticular branch of the opthalmic nerve. — The trunk of this nerve passing onward gives off a small branch to join with the ciliary nerves; then piercing the orbital plate & after sending off other smaller branches again enters the cranium. — There is a very intimate connection between the nerves of the eye & nose & if we were describing the diseases instead of the uses of the eye it would be well to trace them still more minutely; as it is we think it better to leave them here & before proceeding further say a few words about the circulation in the Choroid coat. —

Some

Some anatomists have supposed it to be entirely composed of bloodvessles & nerves. —

It has its supply of blood from the ophthalmic branch of the internal carotid artery. — This artery gives off three setts; the long, the short & the anterior ciliary arteries.

The short ones are very numerous & pierce the sclerotic coat near the optic nerve, they are spread upon the choroid & anastomose frequently with each other, they supply the iris & ciliary processes. —

The longs ones are only two in number, & penetrate the sclerotic somewhat further forward, they divide into two other branches which inosculate round the circumference of the iris. —

The anterior are less numerous than the short ones & penetrate the sclerotic coat much further forward than either of the last, they are distributed with the long arteries upon the iris. —

The veins are much more numerous, for besides those accompanying the arteries, we have the vasa vorticosa; they are very numerous, situated more internally than the others, their branches form nearly a semicircle running from the main trunks nearly parallel with one another. - Their name is derived from this arrangement. -

Vision.

One of the most important parts of the apparatus of vision to be understood is the Chrystalline lens. - Various are the uses which have been assigned to it by different Physiologists. - Bostock assigns to it three uses, viz. 1st to correct the spherical aberration, 2d to prevent the unequal refraction of the differently coloured rays of light & 3d to assist in the adaptation of the eye to distinct vision at different distances. - If parallel rays of light are directed through a lens of equal density

through -

throughout, the focus will not be perfect, but as the density of the chrystaline lens increases toward its centre as has already been seen in the description of its structure, we must conclude that the perfect focus which is thrown upon the retina is formed by means of this lens; the same structure is necessary to prevent the confusion of colours.— This then is another use which we must allow it.— That it assists in the adaptation of the eye to perfect vision at different distances, is very evident, for a person who has lost this portion of his eye, is incapable of thus adapting it without the use of an artificial lens.— There are various theories for the accomplishment of this object.— Some suppose it to have the power of altering its own convexity & thus increasing or diminishing its refractive power, this is supposed to

to be accomplished by muscular fibres so arranged as to draw its circumference toward its centre. – Others suppose that the pressure exercised by the recti and oblique muscles upon the globe of the eye, causes the lamina of which it is composed to slide upon one another & thus alter its refractive power. – Every one is aware that we cannot clearly distinguish an object the moment we fix our eyes upon it; some time, is required as well as some effort, to adjust the eye to the altered distance. – Now if this power be referable to the Chrystalline lens; as is believed by many, it must be either by one of the means I have already mentioned, or it must have the power of changing its position, approaching to or retreating from the cornea: this must be accomplished either by the enlarging or contracting of the vitreous

humour

humour in which it is placed, or it must be accomplished in the manner described by Porterfield.- He maintains that there is a "contractile body" (refering to the ciliary processes) attached to the lens which has the power of bringing it nearer to the cornea, but this is an hypothesis believed by few if any but himself.- Let us for a moment consider the eye of an individual successfully operated on for Cataract;- Has he distinct vision? certainly not; he is obliged to use an artificial lens which cannot alter its own convexity, nor can it alter its position.- he must of necessity seek out another method of accomplishing this object.- I conceive it to be by the action of the recti muscles, which appear to me to be eminently qualified for this purpose.- It is evident, that by their combined action they must lengthen the

the antero posterior diameter of the eye & at the same time increase the convexity of the cornea; this removing the cornea farther from the crystalline lens, which I cannot but think is stationary & always retains the same figure; its use being merely to refract the rays of light so as to bring them to a proper focus upon the retina; the whole power of adjusting the eye being referable to the recti muscles.

It has been asserted that the ciliary processes have a considerable share in adjusting the eye by altering the convexity of the cornea, but the muscular fibres of these processes have never been satisfactorily demonstrated & moreover would I conceive, be inadequate to the task assigned them if they were proved beyond contradiction to be muscular. —

Near

Near sightedness.

It may be asserted without fear of contradiction that devotedness to literary pursuits, has a tendency to cause that defect in the eyes called nearsightedness.- It is no doubt occasioned by constantly viewing minute objects near to our eyes; thus accustoming them to a particular focus, & to a certain degree rendering the recti muscles incapable of performing their duty: for we know that any muscle when long accustomed to a particular action, performs that action with ease, whilst any other becomes exceedingly difficult & awkward.- The capability of adjusting the eye to near objects is lost as we advance in age, from the increasing feebleness of the muscles of the the eye.- This defect is called long-sightedness & exists with very few exceptions in all old people.- Those persons who have been near-sighted & longer in becoming long-sighted.-

Nervous communication.

It was for a long time the opinion of Physiologists that a very subtle fluid was secreted by the brain. — This theory originated with Hippocrates who inferred from the great quantity of blood sent to this viscus that it was a secretory organ. — Now although they could find none of the secreted fluid, he, & after him Descartes were in no wise daunted, but roundly asserted it to be an invisible, elastic fluid, which was conveyed in equally invisible canals, situated in the nerves to all parts of the body. — This theory had at one time a great many admirers; they even talked of the diseases to which this subtle fluid was liable & its component parts have been the theme of many long & learned discussions. — It is really astonishing how men of acknowledged reputation for scientific research, can permit them-

selves

-selves to be blinded by such absurd notions.—

The theory of vibrations is also of very early origin, but very unsatisfactorily detailed by all the physiologists who preceded Hartley.— By this Hypothesis perception is made to travel to & from the brain, by the vibration of the particles of ~~the~~ which the nerve is composed.— Here to however we have the advantage in one particular over the last— we can see the agent employed; but we cannot so easily perceive or understand the motion of these particles, when we are aware that in order to this motion the cord must be tight & perfectly free in all its motions. How then can we conceive of Cords lying perfectly loose & throughout their whole extent in contact with other substances, ~~can~~ to be acted on by vibrations? It is almost too absurd to reason upon,— yet

yet there is one argument which requires notice.— They say that an impression once excited upon a nerve does not instantly subside & therefore, this sensation must be caused by vibration because the same thing happens with a cord.— That the sensation of an impression does remain some time after such impression has been made, is without doubt true; as we shall presently see is the case with vision: but surely this isolated fact is not sufficient to found a theory upon.—

The doctrine of electrical influence is as yet in a state of infancy; it has been supported with great ingenuity & in some measure confirmed by a series of very curious & interesting experiments, performed by Dr Philip, all of which my limits will not permit me to detail.— Let one suffice.— When he cut the gastric nerves he found that digestion could not be performed, but upon

upon a galvanic arrangement being made to connect the two cut ends of the nerves digestion proceeded as in their natural state.- This theory has met with much opposition, but if W. Philips's experiments are correct, (& we have no reason to doubt them) they go very far to substantiate it; it would certainly be very desirable to repeat them, as the whole affair at present lies in great obscurity.- The electrical theory appears to me the most plausible & consequently I cannot but incline toward it; none of them however are perfect, there are strong objections to them all & until some more satisfactory evidence than we are at present in posession of can be obtained, we are compelled to acknowledge our ignorance of the manner in which impressions are conveyed by the nerves to & from the brain, or how after they

they have arrived there the mind takes cognizance of them.—

That the nerves are conductors is proved beyond a doubt, by many facts a few of which only I will mention.— We know that when a nerve is divided impressions cease to be conveyed between the brain & the part supplied by that nerve; the same thing happens when we compress it, motion & sensation are immediately destroyed.— If it be a nerve of the eye, we immediately become blind; if it supply a gland, secretion immediately ceases to be performed by that gland; if it be the par vagum digestion ceases & the voice is lost.—

The degree of motion & sensation of an organ depends on the number & size of the nerves supplying it: the organs of sense are more easily affected by external impressions than any others & we find they are more liberally supplied with nerves.

Those

Those parts which are destitute of nerves are insensible; as the hair, nails & cuticle.- All these facts prove that impressions are first received by the nerves of the eye & by them conveyed to the sensorium commune by the optic nerve. — Occular Spectra.

I have before remarked that when an impression is made on a nerve, the effect does not immediately subside, upon the removal of the cause: this may be proved by the well known fact that a complete circle of light will be formed by rapidly whirling round a lighted brand.- If a black spot be painted upon a white board & the eye attentively directed to it for some time & then turned away, we will find the spot still visible, but it will have the appearance of a white spot upon a black board.- Other colours alternate with each other in the same way; the spectral colour being always the one which would be produced by the union of all

all the prismatic colours except the one we look at.— This fact proves not only that the impression remains after the cause is removed, but likewise that a nerve cannot persevered in one kind of action for a great length of time, but soon becomes insensible to the continued impression of the same object.— Supernatural appearances may be very rationally accounted for, when we consider that if the nervous system be in a diseased state, the retina will retain the impression of an object longer than when it is in a healthy condition: the brain mind being at the same time impaired as in all probability it would be, from the same cause that disordered the nerves, we may readily imagine how such a person might ~~suppose~~ that he saw objects which in reality had no existence.—

Some persons have not the faculty of perceiving certain colours; others can see them but are unable to distinguish one from

from another. — I recollect an anecdote which Dr. De Butts told us the last winter we had the pleasure of listening to his lectures which illustrates this fact. — The person of whom it was told was a tailor, who from an accident had lost the faculty of judging of colours, but was not himself aware of this defect until he actually made a coat of scarlet cloth for a gentleman who had ordered one of blue. — The celebrated Mr. Dalton was unable to distinguish certain colours; for instance, when he looked at the prismatic spectrum, he could only perceive the yellow, blue & purple (the cause of this (until we are better acquainted with the physiology of the nerves) cannot very readily be explained. to say as some writers have, that the perceptive powers of the eye are deficient, is stating the fact but does not in the least degree elucidate the cause.

It has been by some supposed to be not an affection of the nerves, but of the humours of the eye.— This is an idea which certainly carries with it much plausibility; for when the eye in jaundice becomes coloured by the bile in common with every other part of the body, every thing we look upon is tinged with that colour.— So also we may suppose that if the humours should be of a greater opacity, than when in a healthy state; they would intercept some of the weaker rays, whilst those of greater strength would be seen; the fact that all the rays from the sun, are intercepted by the fog, except the red which is stronger than the others is very familiar to every one.— This however is a mere hypothesis & although as I have said, it is plausible, yet many experiment will be necessary before it can be reduced to a regular theory; such experiments would be very interesting to any one having more time than a student.—

Seat of Vision.

M. Marriote supposed the seat of vision to be in the Choroid coat; which opinion he deduced from the fact of there being a point of the retina insensible to light; this point is where the optic nerve enters. — That it is insensible I believe is not doubted; it is sufficiently proved by an experiment which he performed & which was afterward improved on by MM. Picquet & Le Cat. — It was as follows; he made three white marks on a dark wall, in a horizontal line, about two feet asunder; then covering one eye retired obliquely from the wall, about twelve feet, keeping the other eye fixed on the mark nearest the covered one; the middle one disappeared the other two being still visible. — The reason of the disappearance of the middle one is easily explained; the rays eminating from it fall directly on the insensible spot of the retina.

retina, consequently there is no impression made. — Marriote supposed the retina to be a transparent coat & that therefore it could not receive the rays, but must transmit them & for this reason it could not be the seat of vision. — In this opinion he was supported by Le Cat & Mitchel, who further argued that as the retina was not smooth & uniform in its texture, it could not present a proper surface for the pencils of rays to fall on & as the Choroid was smooth & evidently received the rays transmitted by the retina, it must be the medium conveying the impression to the sensorium.

Priestly contending for this theory says that confusion will ensue from the light reflected by the Choroides; especially in those animals which have this coat of a white colour & in those which have it black, blindness would be the consequence, if it were necessary that the retina must

receive

receive the impression from that coat.—
I grant this to be the fact & cannot therefore
suppose the Choroid to have any thing
more to do than to secrete the Pigment,
which is intended to absorb all superabundant rays; this appears evident when
we consider the hawk who has it of a
black colour & the Eagle, both of these birds
are very sharpsighted; the owl on the contrary is nearly blinded by the light of day
in consequence of the light coloured pigment
being incapable of absorbing the superfluous light.— Again he says the retina receives little or no impression at all & that
the Choroid is the best membrane in the
system for receiving impressions; he does
not however prove either of these statements
& I shall therefore receive them only for
what consider them worth.— From all
these facts as he calls them, he is convinced that it is the seat of vision & that

the

the impression is carried to the brain by means of the nerves by which it is supplied. — If this were true, it would would render the retina & optic nerve entirely useless, now than this the optic nerve would be in the way by occupying the space which ought to be filled with the choroid. — That this coat has its use is undoubted, but the deductions from the above statements, appear to be entirely erroneous, even if we allow them to be facts, (which I cannot do) for it is plain to every one who has ever dissected an eye that the retina is not transparent at least not so much so as to be incapable of receiving impressions. —

The retina is by others with more reason supposed to be the seat of vision. — Physiologists formerly said that the mind ~~not~~ ~~the~~ viewed the object painted upon the retina; but in order to observe this picture I conceive it necessary that it be

first,

first conveyed to the brain, the seat of all the sensations.— That the brain is the seat of all the sensations, I conceive to be abundantly proved by the terminations of all the nerves being there; & it appears equally evident that that part of the brain where a nerve terminates is the seat of the sensation conveyed by that nerve.— It has been said that we are not more conscious of the impression being in the brain than in any other part.— I deny this.— We are aware that thought has its seat there; for when we think intently upon any subject we have invariably more or less head ache; the same thing happens when we examine minute objects; a long continuance of any noise or exercising the sense of smell has the same effect. all these weary the brain, making it evident that it is the grand centre of nervous influence. The Thalami nervorum opticorum & tubercula quadrigemina being the portion whence the optic nerves rise, must consequently be the seat of vision.—

Single vision.

How single vision is produced, from the picture of an object painted on the retina appears to be something of a paradox.— It has been supposed that the blending of the two optic nerves was for the purpose of so combining the two pictures as that but one of them would be conveyed to the brain, but there are many strong objections to this theory. When we place the finger upon the eye & look at an object it appears double.— So when we look at a distant object, any thing placed between us & that object appears double & vice versa.— Now if the two pictures were blended when the optic nerves crossed this could never happen.— Others have supposed that one eye was always weaker than the other & that single vision is caused by our not attending to the impressions made by the weaker one.— We can readily grant

that habit could enable us to do this; but if the impression were really unattended to, we would squint, for as we did not use this weak eye it would wander from the object at which we looked with the strong one. as we are certain that this effect would be produced for if one eye by accident, disease or malconformation be weaker than the other; squinting is invariably the result. We know too that when we look at an object with both eyes it appears more distant than when we use but one. It has been said that double vision caused by intoxication is an argument in support of this doctrine; that the habit of not attending to the weaker one is then lost, but this is erroneous; for we find that when double vision is so caused the eyes do not move in a parallel direction; in other words the man squints & so far from supporting this theory, it

it is a strong argument in support of the one of which I am now about to speak.

To me the most rational way of accounting for it, is to assume with Reid, that there is but one point in the retina of each eye, which possesses that degree of sensibility requisite for perfect vision; this point is directly opposite the pupil & consequently when we look at an object directly before us, the rays from the object fall immediately upon that point in each eye & single vision is the consequence. We have the same result when the rays of light fall on any other part of the retina, so that they have the same relation to the centre of each retina, the only difference being that the object is seen fainter. It has been argued in opposition to this theory that if we place a ~~green~~ blue glass in the end

end of one tube & a yellow one in another tube that we do not see as might be expected one of an intermediate colour viz. green but that we see them alternately: this however is not the fact, we do see but one colour & that one is green. — This objection appears to have been brought forward in support of another theory viz. that although both eyes are directed towards an object yet we use but one eye at a time, for the purpose we may suppose of preventing either eye from being fatigued, the fact however which I before mentioned, that when we look at an object with both eyes we have a more vivid impression produced than when we use but one puts this theory down at once, and renders it entirely unnecessary for us to search for any farther objection.

Now then (it may be asked) are we to ac-

count

account for single vision? As we before stated Reid's theory of corresponding points appears to us most satisfactory, & although many objections may be urged against it; yet, in the present imperfect state of our knowledge it the only one which carries with it even plausibility. —

It is to be hoped that this very important portion of our studies may not be overlooked in the many important discoveries which are yet to be made before our science has reached its acme. —

An

Inaugural Thesis,

on the

History, Pathology and Treatment,

of

Spasmodic Cholera.

Submitted

To the Examination,

of The

Trustees and Medical Faculty,

of The

University of Maryland.

For the Degree

of

Doctor of Medicine.

By

Perry S. Hinnamon,

of

Baltimore.

A. D. 1833.

To

Nathaniel Potter, M. D.

Professor of the Theory

And

Practice of Physic,

in the

University of Maryland,

this Essay

Is most Respectfully Inscribed,

By,

The Author.

Essay on Cholera.

The time having at length arrived, when I am called upon by the laws of the University of Maryland, to present to its Professors and Trustees, an essay on some one of the many subjects that present themselves, to the mind of the Medical student, and of the many there is not one deserving more serious consideration, than that which has produced consternation throughout Asia, Europe and America, called cholera, which term, implies a flow of bile. As for the correctness of the term, as applied to the epidemic with which we were visited during last summer, I leave for more competent judges to decide. And proceed to give a short account, of the wide spread disease which has excited so much terror and allarm, in the minds of our fellow Citizens of late. This disease appears to have been notised by the most ancient writings on medicine, and particularly by the Hindoos. It was also notised by the earliest writers on the diseases of Europe. Bentes, who wrote in 1629, describes it: Lebegue de Presle, speaking of it, says it prevailed in upper Hindoostan, and destroyed 30.000 Negroes, and 800 Europeans. In the latter part of march 1781, it attacked a division of the British army, in bengal, consisting of 5000 troops, and so great was its malignity, that men previously in good health, dropped down by dozens, and those even less effected fell victims in the space of an hour. In April Cholera broke out at Hudwar on the ganges, a spot where the Hindoos assembled in great numbers, as the place was held particularly sacred, they convened for

the purpose of ablution, in the Holy stream, numbering about two millions: the disease in question cut off in about eight days twenty thousand persons, and so confined was it that it did not reach Jawalgeer, only seven miles distance, and ceased immediately on the breaking up of the festival.

Cholera was spoken of by Hippocrates, who lived four hundred years before Christ. Sydenham, noticed its prevalence in London in 1669, and in 1676; but Dr. Barry questions whether Sydenham ever saw a genuine epidemic cholera, as for the truth of which I cannot say. From his own account it appeared to rapidly fatal, one thing is very certain, if we indulge in the same practices the Hindoos did, we would have Cholera, and epidemic Cholera throughout our country, but as our climate is much more favourable to us, for we enjoy many blessings the inhabitants of the east are entirely strangers to. It prevailed extensively at Paris in the summer of 1730 and 1780, as well as at various periods.

A disease possessing the principle characteristics of Cholera prevailed during the hot, and rainy seasons of every successive Year in the lower provinces of Hindoostan, it affects principally those who were deprived of wholesome diet, clothing, and exposed to the inclemencies of the weather, this disease originates in a district of India called the Nuddeah, which lies beyond the river Hoogly, the west branch of the ganges; in this

district Cholera, prevailed as early as May 1817, and raged extensively in June and July, and reached Dacca.

It broke out in Jessore on the seventeenth of august, when it first attracted general notice, to which time and place it is usual to refer the commencement of the disease, in the short space of a few weeks it destroyed upwards of 6000 persons. Jessore, is situated in lat 23° 10' Long 88° 10 east from Washington, and 62 miles north east of Calcutta before November; few towns or villages within several thousands miles escaped an attack. In the ensuing Year the Epidemic had extended as far north as Lahmanpore and as far south as Cape Comorin in lat 8° 5', its westmost limit being at Bombay Long 150 E, its eastmost being at Sylhet; in 1819 it attacked the isles of France and Bourbon, in 21° of south latitude. In the first of these Islands the disease destroyed 7000 persons at least, in the Island of Bourbon 257 persons were seized with the disease and of that number 178 died.

In 1820 it ravaged Siam, the Philipine Islands and the southern provinces of china. In 1821 it is reported to have destroyed in the island of Java 102.000 individuals, during the same Year the disease reach'd Bassora, Bagdad Bushire and Shiraz, in this latter city containing a population of 40,000 there died of that number 16.000 within the first few days.

In Bassora 14.000 died in two weeks. In 1823 the

disease reached the Islands of Amboyna, in long 128° E. from Washington i.e. to 127 east from London; extending also to Antioch in long 113, and to Astrakan in Asiatic Russia in lat 46° N, thus it spread in seven years over ninety one degrees of latitude, from Antioch to Amboyna and sixty seven degrees of latitude from the Isle of Bourbon to Astrakan destroying in its course not less than six millions of human beings, though on a great scale travelling with remarkable regularity, the disease did not proceed in all directions, without distinction or apparent choice, but exhibited extraordinary severity at particular stages of its passage. It often seemed to effect certain lines, and to fix itself in particular parts of the country, sometimes it would take a complete circle round a village, and leaving it untouched, pass on as if it were wholly to depart from the district then after a lapse of weeks or months, it would suddenly return and nearly depopulate the spot that had so lately congratulated itself on its escape. Subsequently to the Year 1823 the disease pursued its destructive career through various parts of India and China, crossing the great Wall, and toward the close of 1826, after desolating several Cities in Mongolia it reached the frontiers of Siberia. In 1829 the pestilence prevailed with great violence in several parts of eastern Persia. — Cholera made its appearance in Moscow, the latter

part of September and by twentieth of november 6591,
had been affected with the disease of whom 3508 perished.

It Broke out in Bengal, the 14th of April 1831, and
in Macca, the first part of may the same Year. The
first place attacked in England by this disease was
Sunderland, a sea port Town in the County of
Durham, the disease appeared there as early as August
1831, but did not engage general attention or excite alarm
until the latter part of the year.—

Since then it has manifested itself at New Castle on the
Tyne, and many contiguous places in the north of England,
and in Haddington, Edinburgh, Glasgow, and other towns in
Scotland. It showed itself in London during the last
winter, and in the spring in Dublin, Belfast Cork and
other places in Ireland. In the early part of april its presence
was announced in Paris, and since then it has appeared not only
in the small in the precinct of that Capital, but in many
other places in France. Mr Curtis, who wrote in 1807, regarded
it at that time as a new disease, and finding no name in the
nosological classification, proposed from its most prominent
symptoms, to call it Spasmodic Cholera, the disease no doubt
manifests symptoms similar to our late Epidemic.

But some of the writers of India objected to the term Cholera,
on the principle that the term implied redundancy of bile,
but might there be a flow of bile to attain the term Cholera,
or will not the morbid secretion of the fluid be sufficient for

as to obtain the term either in quantity or quality. The name of the disease may be changed to a variety of terms, but we do not know we shall always have the same phenomena present in all stages of this disease, and we may alter it again and again, But I do not see the necessity of contending so much about names, if we treat the disease according to symptoms as they present we shall be more successful in our practice.

I am inclined to think Cholera an ancient disease, for we find it accurately described by the older writers, as presenting the same symptoms as our late Epidemic. But Cholera has at length invaded the peaceful shores of America, and Quebec seems to have been the first place it commenced its desolating influence, it broke out on the eighth of June, and in fourteen days carried off 361 persons. In Montreal it commenced like a thief in the night bidding defiance in some instances to all opposition, and well may it be called the Pestilence that walketh in darkness, it spread so rapidly that on the 13 of July there had been 2716 cases and 1200 deaths, Dr Colwell states that two thirds of the medical men of that place were attacked. But one of their number died, the disease spread also through Kingston and various small towns up the Lakes in an easterly direction, it passed along Lake Champlain, entering Plattsburgh and other places, and proceeded down the Hudson river to Albany and New York. In both of these places bowel complaints and common Cholera Morbus became frequent, and in about two weeks malignant Cholera made its appearance, but in the most unhealthy parts of the City, and its victims were the most

intemperate of its inhabitants, the disease next appeared in Philadelphia, and the first case was a person who had recently visited New York, his wife and Mother were the next attacked and died, but it may be attributed to fright in some measure and other causes, the mortality in that City was not so great, amounting to not more than 400, the disease next visited Baltimore, very contrary to the sanguine predictions of the Physician to our Board of health, who instead of being always on the watch, willing to detect the least shadow of suspicion evil, by his powerful logic, caused the Board of Health to sleep upon their posts, by saying the Cholera could not come to far south, without giving any good argument, why it could not, and what was the result, the destroying Angel came upon us, and they found they had to do, what should have been done, had there been no consulting Physician to the Board of Health.

Symptoms of this disease during the prevalence of the Epidemic here were, a universal predisposition to attacks of Cholera, mostly manifested by irregular and difficult digestion, loss of heat, fullness of the chest, or pain in the abdomen, irregularity of the alvine discharges, foul and pasty tongue, sense of general debility frequency of cramps or contraction of the muscles, sickness and pain at the precordia, occasionally diarhea, chilliness, alternating with the shifting sensations of heat through the bowels. This disease is most always preceded by premonitory symptoms which warn the patient of the approaching disease.

The further developement of the symptoms are attended with excoriat-

ing

pain, and griping of the stomach and bowels, constant retching, efforts to vomit, unquenchable thirst, inexpressible anxiety, frequent evacuations, resembling rice water, and similar to water in which meat has been washed, very fœtid smell, breath and tounge cold, lips blue, tounge pale, broad and flat, pulse scarcely perceptible at the wrist, speech inarticulate, stools involuntary, cramps become universal, cold sweat, hiccups and death.

The Pathology of this disease seems to consist in a state of congestion, the efficient cause acting upon the nervous system, in consequence of which, the whole abdominal viscera are brought into a state of congestion, the heart not being able to propel the blood to the capillary surfaces, hence the cold skin, and pulseless condition of the Patient, We account for the inflamatory condition of the mucous membranes on the principle of an increased quantity of blood, consequently an increased heat, the result must be inflamation. The ganglionic system of nerves having become prostrated, and every secretory surface depending upon that system for the healthy performance of their functions, and that great nervous power being lost, the fluids rush as it were to a common centre, then pass off by the rectum, except what is poured into the stomach, which is discharged by emesis, the bloodvessels in no less degree participate; depending as they do for their support, the absorbents are also debilitated, consequently venous absorption cannot go on, the patient may drink any quantity, without its being taken into the circulation, thus we may account for the

continual thirst, the patient is always labouring under, the blood having lost one of its essential constituents, the serum is no longer fit for the subservance of the animal economy. We are under the impression the internal heat is preternaturally increased, in proportion as the external is diminished. From what I have advanced of my views of the pathology of this disease, the treatment would at once suggest itself to us, I would divide the disease into two stages and adopt my treatment accordingly, the first being the stage of invasion, the second the stage of Collapse, and it must be obvious that every disease must be treated by the Physician, according to the symptoms, as they are developed, and it seems to me to be empyrical to say, what shall be done untill he shall have seen the patient. I believe the remedies are few and simple, and it would have been better for many thousands had there been but few tried, and those few properly applied.

I would suggest if we could trace the disease to any thing taken into the stomack, we might give an emetic, to remove the offending cause, and determine the circulation to the surface. the muriate of soda, or mustard seed, when operated leave a tone in the stomack. But this is not to be relied on, in most cases I would prefer giving a dose of calomel if the patient be labouring under diarrhea, say calomel ℈j gum opii 1 gr, which will generally be sufficient in in quantity, but may be repeated if occasion require it. —

But in some cases Bloodletting from a small orifice

and calomel is our only reliance, and I here attach a great deal of importance to this method, as our object is not to prostrate our patient, but to alleviate the congestion, which is about to take place, but if we give large quantities of opium, we mostly increase congestion, which we so much desire to prevent, and which there is a tendency to.

But in the last stage of this disease termed collapse, I cannot from what I have seen of the disease, consent to bloodletting, without under extraordinary circumstances, or when the economy of the system would justify it.

Much excitement has existed in the Medical World, as to contigion or non contagion of Cholera, As for my own mind I am entirely at a loss, to account on what principle of reasoning it can be proved a contagious disease, when we have known such multitudes that have been connected with persons, that have had the disease, without taking it, we should remember also the predisposing cause and the class of persons who are most liable to it, as some are much more so than others, there is a peculiar idiosyncrasy in some which does not exist in others, we see this the case in many diseases. The class most exposed to this disease, are the poor and intemperate, those who are badly fed, and live in lowly poorly ventilated, the mind also has a tendency no doubt to increase the predisposition of the system to an attack of any Epidemic, when a disease of this kind exists the poor have every thing against them. But those who believe in the contagion of this disease, may say its it has not been confined

strictly to the poorer class. But I would ask are those who are wealthy, and live upon all the luxuries of the land, free from predisposing causes, especially when they are given to every debauchery which has a tendency to produce imbecility in every faculty, both mental and physical. Let us compare the number of those who have attended the sick, those who have thrown the dead together in heaps and buried them, and have not been affected. The Medical council at St Petersburgh, state after having been in constant attendance with the sick, have never communicated the disease to any one, even without employing means of purification, many after having accused have worn their clothing made of fury, without experiencing any relapse, in opening the bodies of persons after death for examinations those who attended at the dissections did not take the infection, although after the first day scarcely any precaution was used, we are also told of a Physician who had received several wounds in the Anatomical examinations, continues his operations, having only touched the injured parts with caustic.

Much has been said concerning the efficient cause of Cholera, and much more remains to be said. And if we look one moment at the locality of the place at which it raged so furiously, we have reason to believe it to arise from the decomposition of vegetation, Jessore is situated in a crowded ill ventilated place, surrounded by a thick jungle, and exposed during the rains to the effluvia of immense quantity of stagnant waters

also we find the case with disease. The cause of the plague has been known to cause the death of persons enjoying good health in a few minutes from the time they had been exposed to its influences. Yellow & Typhus fevers have had the same effect & the epidemic which passed through our Country during the last summer presented many memorable cases of a similar nature. The analogy in reference to sensible effect is very great between certain poisons & those of other morbific agents. The symptoms of tetanus when compared with those that result from the action of the poison of nux vomica will be found to present a manifest similarity. We might mention many more instances to show the analogy between the sensible effect produced by poisons & the effect produced by the ordinary causes of disease. But what has been said is sufficient to show the similarity both as regards the time necessary to produce these effects & the sensible consequences which follow their application. Since then in many respects the similarity between poisons & the ordinary causes of disease is so great

may we not rationally conclude the medium through which their influence is conveyed to the general system is the same. It appears contrary to all fair analogy to conclude that poisons & ordinary causes of disease should exert a morbid influence on the constitution at one time through the medium of one system of organs at another through a different system of organs. That a poison or any other cause of disease should under peculiar circumstances affect the function of the general nervous system at one time through the circulation at another through the absorbents & at another time through the nerves. Variety of effect certainly cannot depend upon the medium through which the impression of a local agent is carried into the system. Every organ in the system discharges its own function, & it is a just Physiological presumption that no two organs are capable of performing the same function - nor can two functions be performed by the same organ. It is a just conclusion then, that the impression of a morbid agent is conveyed to the system through only

one medium of communication. What this medium of communication is, is a question which Physiologists yet differ upon. The various opinions upon this question are that poisons produce their effects by the impression they make upon the nerves of the part with which they come in contact & the transmission of this impression to the brain. Another is that before they can produce their effects upon remote parts of the economy they must be taken into the circulation & thus be brought in immediate contact with the brain. It is more generally believed however that poisonous agents act in both ways; sometimes by an impression communicated by the nerves to the encephalo-spinal system & under other circumstances through the medium of the blood. We have many proofs of the manifest local action of poison on the nerves of the part with which they come in contact. Mr. Brodie observed that if the leaves of monkshood be chewed a tingling & numbness of the lips is produced which continues many hours. M. Robiquet also observed that if the vapour of strong prussic acid be confined in a glass tube by a finger placed on either open en-

-tremity a numbness is felt in the end of the fingers which continues longer than a day.- Morgan & Addison also discovered, in making some experiments that the accidental contact of a minute portion of ticuna's with the still living intestine of a dying Guinea Pig caused an instantaneous cessation of the peristaltic motion. And upon the application of the same poison to other parts of the intestinal canal a similar result was found to be produced. Other examples of the immediate action of poisons upon the nerves of the parts with which they are brought into contact could be mentioned. An extension of this mode of action is admitted by many by which the impression of poisons in fatal doses is supposed to be propagated to the central organs of sensation through the nerves. This doctrine is plausible when applied to those poisons which produce their effects on the economy with great rapidity. Prussic acid when applied to the fauces of a strong in the smallest quantities produces instantaneous death. A similar effect followed the application of a drop to the eye or by

injecting it into the jugular vein. These results together with the equally rapid effects of Phychnia upon the inferior animals have led to the conviction that these poisons at least cause their effects by acting immediately on the nerves before they have time to enter the circulation. Although this doctrine when applied to those poisons which act with such surprising rapidity upon the system seems unobjectionable, yet as most other substances are received into the circulation before their effects are manifested is it not possible that even in the case of hydrocianic acid certain changes may take place in the capillary system of vessels which have hitherto escaped the observation of the physiologist. The detection of substances in the urine when at the same time they could not be observed in the circulating mass has been adduced as evidence of their non entrance into the blood vessels, although there are many circumstances which render the detection of poisons in the blood extremely difficult may almost impossible. Yet in some late experi-

=ments and more successful chemical analysis the poison has been discovered in its passage through the blood vessels- Even prussic acid which acts with such rapidity has been detected- There is also an experiment made by Morgan & Addison which goes to show that prussic acid does not act so immediately upon the nerves as has been generally supposed- The spinal marrow of a half grown rabbit was divided- The leg was inoculated with strong prussic acid- the animal died in three minutes- Here the poison produced its usual effect & in the ~~usual~~ length time- that it is found to operate under ordinary circumstances- notwithstanding the communication between the poisoned part & the sensorium- through the common medium of the nerves was cut off- Now if the impression upon the brain by the application of prussic acid is made through the medium of the nerves of sensation & voluntary motion how can the result of the experiment above mentioned be accounted for- And Mr Brodie in one of his experiments divided the axillary plexus of a rabbit- & then inoculated

string was then tightened so as to impede the circulation, the leg was now poisoned with tiennas, yet no sensible effect whatever was produced at the end of an hour from the operation the ligature was then removed & in twenty minutes the animal was found motionless & insensible — Hence Mr Brodie Also concluded that the poison entered the blood & was thus carried to the brain. Should this conclusion of Mr Brodie's be received as correct — as to the action of tiennas — we may with equal propriety assert that prussic acid a poison which is universally admitted to act through the nerves produces its effects through the same medium — Morgan & Addison tested this fact in one of their experiments, similar to that of Mr Brodie's — The leg of a rabbit ~~was~~ placed in the same condition as that mentioned by Mr Brodie — was inoculated with six drops of prussic acid — without producing the least effect — while the ligature remained — We may observe that the experiments of eminent Physiologists prove satisfactorily that poisons do enter the circulation — We may instance those of Magendie & Orfila — which

are generally known. As many poisons must enter circumstances into the circulation we have next to enquire whether it is necessary that they should through this medium be brought in immediate contact with the brain before their effects are manifested on the animal economy. The most satisfactory opinion on this subject is that advanced by Morgan & Addison — founded upon many excellent experiments. The conclusions at which they have arrived is thus expressed — "All poisonous agents produce their specific effects upon the brain & general system through the sentient extremities of nerves, & through the sentient extremities of nerves only; & that when introduced into the current of the circulation in any way, their effects result from the impression made upon the sensible structure of the blood vessels, & not from their direct application to the brain itself." These gentlemen instituted a number of experiments to prove whether when poisons are introduced into the veins & by peculiar management prevented from passing to the heart

and from thence to the brain the characteristic ~~effects~~ results would follow. The jugular vein of a full grown dog was laid bare to the extent of two inches, the circulation through the vessel was now stopped by the application of two temporary ligatures. The vein was divided & the divided extremities reconnected by means of a tube containing a piece of woorara of the size of a canary seed the temporary ligatures were removed after the continuity of the canal was thus restored and in a few seconds the animal dropped on the floor manifesting the complete operation of the poison. Here however the contact of the poison with the brain was not prevented & this experiment might be adduced as a proof of the action of that poison from its direct application to the brain. Another experiment was now made in the following manner. A dog of the same age & size with the preceding. The jugular vein was laid bare & temporary ligatures applied an opening was made between the ligatures & a cilinder of quill containing a piece of woorara of the same size as

that used before was pushed into the vein a ligature was now permanently applied above the opening through which the quill had been passed & the upper temporary ligature now removed — Here the ligature permanently applied entirely prevented the passage of the blood to the heart after having come in contact with the poison yet in a few seconds after the removal of the ligature the animal dropped in convulsions as in the former case & died in a few minutes — here the possibility of the poison being carried to the brain by the current of the circulation was entirely precluded by the application of a ligature to the vein between the poison & the heart yet the usual effect is produced —
If the poison in this case did not act upon the sensible structure of the vein — we are at a loss to account for its action — Indeed it is the only medium through which it could act — It is true that death in the first instance followed more rapidly than in the second this however is accounted for when we reflect upon the much more extended surface

with which the poison came into contact. The rapidity with which poisons produce their effects when introduced into the carotid artery & thus carried immediately to the brain & when introduced into arteries more remote tend to show very conclusively that their effect is not produced by being brought into actual contact with the brain - but from an impression made upon the sensible structure of the vessels through which it passes. This will appear from a comparison of the two following experiments. The carotid artery of a dog was exposed & a small portion of woorara inserted which caused his death in a few minutes. The femoral artery of another dog was now exposed & the same poison inserted which caused his death in even a shorter time than the preceding. Now had the effect of the poison depended upon its actual contact with the brain we should expect its operation to be manifested in a much shorter time when introduced into the carotid artery than when introduced into the femoral artery

In the former it would be carried directly into the brain whereas in the latter it would have to pass the capillary vessels into the veins thence into the heart from thence be thrown through the capillary vessels of the lungs to be taken up by the pulmonary arteries & conveyed to the heart again & from thence be thrown through the aorta to the carotid artery to the brain Certainly then we would be justified in expecting a much more rapid result when introduced into the carotid than into the femoral artery - was it necessary for the poison to come in actual contact with the brain - The effects of poisons when applied to the substance of the brain itself has not manifested its operation in a decided & characteristick manner - this has been proven by an experiment in which a portion of the brain of a rabbit was sliced off & a small portion of woorara placed in contact with its substance care being taken to prevent its touching any other part - The poison in this case must have been dissolved in the moisture of the brain and

consequently brought into contact with the uninjured parts of that organ which were capable of performing its functions— yet no manifestations whatever of the operation of the poison was given at the expiration of seven minutes—

Whether the entrance of poisonous substances into the circulation be necessary to their operation is a question which is not now worth disputing— The facts above stated show we think conclusively that even when they do enter the current of the circulation their operation is manifested not by being carried thro to the general centre of the nervous system but by their operation on the sensible structure of the vessels with which they come in contact— And we are disposed to think that they influence the brain & general system by an impression made upon the sentient extremities of the nerves & not by absorption & direct contact with the brain—

An Inaugural Dissertation on Hepatitis

Submitted to the Provost Trustees and Faculty
In the
University of Maryland
for the Degree of
Doctor of Medicine
by
Robert Cruikshank
of Md.
1833.

absent

Before entering on the subject of acute Hepatitis or
Inflamation Of the Liver, it may perhaps be considered
as necessary and proper that some previous views of the
organization and functions of that organ should be taken
And indeed if we consider the great seize which this
viscus possesses especially in the earlier periods of ex-
istence, its great vascularity, the magnitude of its
vessels, its peculiar circulation, the quantity & nature
of its secretion, and above all the extensive sympathies
it enjoys, we cannot but contemplate it as an organ
of primary importance, and in its derangements as
demanding all the attention and carefull investigation
of the Scientific Physician. It is not my intention to
enter minutely into a discription of the structure and
functions of this organ as it may be found in any of
elementary works on that subject, but merely to enu-
merate the most general and interesting particulars re-
lating to it. In taking a view of the structure of the
liver we find it presenting different appearances
at different periods of life and even its circulation to
undergo great and important changes. Viewed in the
healthy and normal state in the adult subject, the
liver is found of very great seize larger indeed than
any other gland in the body, of a brownish red colour
and of rather an irregular configuration placed in
the right hypochondriac and epigastric region convex
on its superior surface, it becomes irregular on its inferior

t is marked by depressions which are occasioned by
e passage of its bloodvessels and ducts. It is generally
ivided into three lobes, the right and the left and
e Lobulous Spigellii it is retained and supported
its situation by five ligaments, first is the Falciform
hich passes between its right and left lobe the right
nd left lateral the coronary the round ligament
hich in the Fœtus was the umbilical cord: on the
erior surface of the right lobe is placed the gall
ladder which receives and contains the fluid secre-
ted by the Liver. Its lymphatics are said to be very
umerous, the nerves are derived from the Hepatic
lexus the nutrient artery is the Hepatic a branch
f the coliac, the blood of the Liver is returned by
e Hepatic veins, but the most remarkable phenomenon
the circulation of the Liver is the vena Porta which
its arrangement has not been unaptly compared
a Tree; its roots being inserted into the substance
the abdominal organs and returning their blood
rming a trunk before entering the Liver and afterwards
iding into many branches which ramifies on all
des in the substance of that organ, it thus resembles
brin in its office in collecting the returning blood
nd an artery in the distribution of its branches in
e Liver. It is generally supposed that this vein per-
orms the office of secreting the bile while the Hepatic
rtery serves merely for the nutrition of the Liver

The most evident function of the Liver is its secretion called bile, which is one of the most complex fluids of the system, and is formed by the extremities of the Vena Porta. It is conveyed out of the Liver by minute radicles of the hepatic ducts which convey it partly by the Cystic duct into the gall bladder where it remains for some time and becomes thicker and darker coloured the remainder passes by the Hepatic duct through the common duct into the duodenum, the colour of the bile is darkish green sometimes yellow, its odour peculiar taste is very bitter and nauseous. Chemists have differ'd in opinion as to its composition, according to Thenard the bile of the ox consists of Rosin yellow colouring matter and a peculiar substance called picromel. It also contains Phosphate and Sulphate of soda Muriate of soda and Potosa pure soda Phosphate of Lime and oxide of Iron. The uses of the bile are generally considered to be, that by its mixture with the chyme it serves to seperate the chyle, it is also supposed to excite the peristaltic action of the Intestines the bile is by some considered as entirely excrementitious. Acute Hepatitis symptoms although not a frequent disease in the temperate and colder latitudes it is one of the most common maladies engender'd by the influence of an intertropical climate. The symptoms of this disease generally commence with rigors or shivering, s followed by a pungent pain of

the right side, which is felt also under the margin of the ribs shooting more particularly in the direction of the back and to the shoulder blade. Cough, oppression in the respiration nausea sickness often with vomiting of apparently bilious matter accompanied with considerable fever great watchfulness and occasional delerium extreme thirst, the tongue generally covered with a white crust, extending also to the mouth and fauces, dejection of spirits sometimes loss of appetite and difficulty of lying except on the affected side, yet instances now and then occur where the patient is unable to lie on either side, pressure also on the region of the Liver where there is usually some tension induces considerable increase of pain and tendency to cough and the cough attending this disease is more generally dry than moist; the Bowels are frequently irregular tho often slow than otherwise, the urine secreted in small quantities of a high colour and often tinged with bile, the pulse is hard and strong, sometimes exceeding one hundred and twenty in the minute and at times intermitting it is attended occasionally with a jaundiced colour of the skin arising from the bile not getting readily in the common duct by reason of the pressure of the inflamed Liver on the Pore Billiaris, while the continuance of inflamation occasionally induces as the resulting consequence

dhesions of the organ to the contiguous parts or con-
siderable enlargement of particular portions such as
the lobes where supuration ensues or sometimes schir-
osity—but in every inflamation of the Liver it may
be observed that the symptoms are more or less acute
according to the degree of sensibility in the part af-
fected when the membranous coaering of its superior
convex part or the ligaments which unite it to the
diaphram be inflamed the pain fever and difficult
breathing are much more violent than when its
interior pulpy substance or its concave inferior part
is affected, which being less nervous are less suscep-
tible of the morbid cause. The Liver in its plethoric
state where it undergoes too much action and ac-
quires a turgesence and plenitude in the pore biliarie
and ductus hepaticus has its faculties stifled un-
less such surchage be speedily removed through
the ductus communis into the duodenum and the
obstruction therein prevented by stimulating the intes-
tines and increasing their permicular movement
here the inflamation acts with extreme violence.
An increased secretion of bile is sometimes thrown
to the first passage occasioning considerable de-
rangement in the state of the Dejections, in most
cases the secretion of the bile is profuse through
the passage into the duodenum is oftentimes impeded
so that jaundice is no uncommon occurrence

n this disease, in most instances the increase of the
ody or parenchymatus texture of the Liver in consequence
f inflamation produces a corresponding change on
s investing membranes which are influenced by the
eneral distention, and the symptoms therefore peculiar
o membanous inflamation exactly resembling those
hich are predominant when the Liver is sensibly
nlarged from inflamation. Diagnosis pain in the
ight clavical and shoulder has generally been
egarded as one of the most characteristic phenomena
f Hepatitis—this symptom is much less common
han is generally supposed. M. Louis doubts whether
t is really indicative of Hepatic inflamation
nd thinks it arises usually from some affection
f the Lungs or pleura upon this subject. Mr.
nnesly observes the pain sometimes complained
f at the top of the right shoulder and so improperly
tated as being one of the cheif signs of Hepatitis, is
hen present certainly characteristic of the disease
f the right lobe, but unfortunately this symptom
s only occasionally present and the inexperienced
ractitioner who has been taught to look to
is as a distinctive mark of the disease infer
hen it is not observed that the Liver is sound.
Hepatetis may be distinguished from pneumonic
nflamation by the following diagnostic circumstancy,
n pleurisy the cough and the oppression in the

chest are much severer than in Hepatitis, in the latter affection the patient rests easiest when lying on the affected side, in the former the reverse obtains in Hepatitis pressure on the right hypochondrium greatly aggravates the pain whilst pressure on the intercostal spaces produces little or no increase of suffering. In pleurisy the former does not but the latter does increase the pain when the substance of the Lungs is inflamed the difficulty of breathing and the pain is aggravated by lying on the sound side as in Hepatitis, but in the former affection respiration is performed chiefly by the action of the abdominal muscles and the diaphragm, whereas in the latter Hepatitis; breathing is affected almost entirely by the action of the Intercostal muscles the chest being sensibly dilated and collapsed by the act of respiration while the abdominal muscles are quiescent. The diagnosis between Hepatitis and inflamation of the stomach is rarely attended with any difficulty, the latter affection is almost invariably attended with a very contracted and weak pulse, whilst in the former it is generally moderately full and hard. In Gastretis great muscular prostration usually attends from the commencement of this disease, and every thing taken into the stomach is commonly or almost immediately rejected. In Hepatetis the strength is at first not much impaired and although frequent vomitting may

ecur it is not so readily excited by ingesta as in
astritis. In the former pressure on the right hypochon-
drium in the latter pressure on the epigastric region causes
most pain — from the pain produced by the passage of
illiary concretions through the gall ducts or by spasms
these passages. Hepatitis is distinguished by the absence
fever. In the former the pulse rarely rising above
ninety beats in a minute, and the heat of the skin
ing little or not at all raised above the healthy
tandard in spasm or irritation by billiary concretions
the gall ducts, the pain often intermits for a time
n Hepatitis it is continuous in the former affection
e easiest posture is when the body is bent forward
the pelvis. In Hepatetis, the patient leans a little
the right side with the knees slightly drawn up. Acute
epatetis rarely continues beyond the sixth or seventh
ay without tending either to resolution or suppuration:
hen the latter has taken place the pain becomes
oderated, the patient experiences a sense of weight
nd throbing in the region of the Liver with irregular
igors more or less profuse, night sweats a sense of
inking with anxiety and oppression in the precordia.
e Lamer skin and a sense of formication in some
ases nearly the whole of the right lobe becomes
ne enormous abscess, — in some instances adhesion
akes place between the parts surrounding the hepatic
bscess and the internal surface of the abdomen

in the district of which it is the capitol, in the southern quarter is composed of the Sunderbunds, a name given to the narrow low marshy Islands contained in the delta, of the ganges, and formed by the different channels through which the river passes to the ocean, and there are many circumstances which induce us to believe that it is produced by the decomposition of vegetable matter, as well as animal substances, we have the scorching rays of the sun and many other circumstances which might be noticed, all which might go to substantiate the opinion. But I am aware it does not obey the laws of marsh effluvia, and I am not willing to believe the Profession altogether ignorant of the laws that govern Marsh Effluvia. But I must say I am under the impression we know but very little about it. But the argument advanced by Professor Potter I feel willing to subscribe to although it was a new idea to me, I mean that of its depending on a non Electric condition of the atmosphere, as I am allway a pupil to conviction, and it coming from the source it did, I appreciate its worth the more, and shall class it with the number of valuable opinions which I have received from him during the past course of Lectures, to whom I do most humbly dedicate this essay.

An Essay on the Physiological action of
Poisons, submitted to the Examination of the
Provost ~~and~~ Trustees and
Medical Faculty of the
University of Maryland
by Wm R. Davis
of Maryland — 1833

absent

The question- through what medium do poisons produce their effects upon the animal economy- is of the greatest importance as it involves not only the action of poisons propely so called but of all agents which produce a morbid impression upon the system- And though Physiologists have given this question much attention- & arrived at their conclusions by ingenious experiments- it is yet involved in some obscurity- their difference of opinion leaves something yet to be done- affords ground for farther investigation & argument- the truth perhaps has been nearly approached- but we could wish this question from its importance had been settled- that fewer difficulties had presented themselves- that their remained no doubt- It is not our intention nor is it in our power to throw any new light upon this subject- far less to offer any theory of our own- all we intend is cursorily to examine the opinions & theories of others- mention some of the experiments upon which they are founded- and attempt to come at that conclusion which late examination has pronounced the

the most plausible & ~~th~~ nighest the truth.—

The effect produced by the application of poison— & the effect of many of the morbific agents which are the cause of dis— =ease are strikingly similar— whether the disturbance of the constitution be caused by the ordinary imperceptible sources of disease as malaria or from a local visible cause as in Small pox inoculation syphilis or hydro— phobia; hen there is no plain line of distinction separating the essential characters of poisons strictly so called from the more common & ordinary causes of disease.— And as regards the interval of time which elapses between the appli— cation of the cause & the occurrence of the effect no dis— tinction can be made. Thus, poison of hydrophobia will remain many days— nay sometimes months in the system before it is affected as is the case in Syphilis— & with marsh miasmata a fruitful source of disease, for individuals have been exposed to its influence & several weeks have passed after such expo— sure before any symptoms of disease manifested themselves We may instance too that prussic acid applied to the tongue will cause death in a few minutes— Such

and when this occurs and the abscess points outwards
the pulse may be discharged by puncture or incision,
and the patient often cured. when the abscess is about
pointing externally, the general fulness distention and
pain in the region of the Liver and epigastrium
which occur before the superative process commences
are at first somewhat increased, but as the superation
goes on and the matter proceeds outwardly a soft and
more or less circumscribed tumour makes its appearance
whilst the general fulness and tenderness in the right
hypochondrium in a great measure subside; when the
abscess advances towards the false ribs and near the
epigastric region, it is generally sufficiently perceptible
but when it points higher up or more posteriorly so
as to be cover beneath the ribs, then a bulging out of
the hypochondrium is merely marked with fullness of
intercostal spaces and pain and soreness limited
almost to one spot. In the great majority of abscesses
the direction of the exterior and superior surface of
the Liver and hence the communication so frequent
with the diaphragm and lungs when they fail in pointing
more externally. sometimes the Liver forms adhesions
with the colon or some other portion of the intestinal
canal and the abscess bursting into them the pus will
be discharged by stool. Dr. Saunders thinks it probable
that the matter formed in the substance of the Liver
may sometimes pass into the bowels through the billiary
ducts when adhesions form between the Liver and
diaphragm, the abscess often bursts into the Cavity of
the thorax or into the pulmonary cells in which latter
case it is often copiously brought up by expectoration

Doctor Wilson observes that there is in hats no instance
of recovery after this accident, an observation however
which has been abundantly contradicted by the experience
of others. Annesly mentions cases of this kind. purulent
expectoration sometimes attend Hepatitis from the
inflamation extending to the mucous membrane of
the bronchial tubes or to the substance of the Lungs
without any direct communication between the ab-
scess in the Liver and the cavity of the thorax. Cases
occur in which the Hepatic abscess bursts into the cavity
of the abdomen and these are almost necessarily fatal.
It has been doubted whether an abscess containing a
laudable pus can be formed in the parenchymatous
structure of the Liver. Louis states that by far the
greater number of abscesses which occur in the
proper substance of the Liver do not contain genuine
pus but a fluid less homogeneous containing small
flakes of blood of a darkish gray colour or like
the washings of flesh. when genuine pus is formed in
Hepatitis, the abscess probably occurs in the cellular
membrane between the peritoneal covering and the
glandular structure of the Liver. Causes. Dr Th.
Saunders and others ascribe the frequent occurrence
of Hepatites in hot climates to the prevalence of
peculiar miasm in these regions, there can indeed
exist but little doubt that hot miasmata, unques-
tionably possess an especial power to derange the
biliary functions, and it may be reasonably presumed
that when from the general prevalence of this
cause in conjunction with high atmospheric heat
the Liver is in an habitual state of morbid excitation

functional derangement, every adventitious exciting
cause such as the sudden influence of a cool and damp
night air, errors in diet and consequent gastric derange-
ment, the intemperate use of Spirituous Liquors would
be peculiarly apt to develop inflamation in the billiary
organs. Doctor James Johnson has advanced some novel
and very plausable sentiments in relation to the etiology
of this Disease. He observes that between the extreme vessels
of the Vena Portarum in the Liver and those on the surface
of the body, in other words between the billiary secretions
and the perspiration there exists one of the strongest
sympathies in the human frame and that whatever
increases or decreases the action of the cutaneous exhalents
increases or decreases also the secretion of bile in the
Liver, knowing therefore as we do how uniformly high
atmospheric temperature excites excessive perspiration
we cannot be at a loss to account for the frequency
of Hepatitis in hot climates, the excessive and continued
perspiration occasions a loss of tone in the extreme vessels
of the surface and this loss of tone in the capalaries
of the skin is accompanied with a corresponding loss
of tone in the secretory vessels of the Liver,- as however
the perspiratory vessels from their excessive and long
continued action becomes debilitated and extremely
sensible to the slightest degree of cold, so when the
temperature of the Atmosphere is suddenly reduced
as is generally the case in hot climates during the night,
the extreme vessels of the surface are instantly struck
with chill which in consequence of the sympathy just men-
tioned is immediately followed by a similar torpor
of the secretory vessels of the Liver; the perspiration

d billiary secretion being therefore thus simultaneously
ested, and the passage of the blood through the Liver
bstructed, a congestion is raised which as there always
ists a congestion in the portal circle falls mainly upon
at system and gives rise to inflamation. That there
ists a strong sympathy between the Liver and the skin
s strikingly illustrated by the fact that in chronic
epatic inflamation or in torpor or scirrhus of this
gan the skin is always dry and harsh, it being nearly
possible in these affections to excite a perceptible per-
ral exhalation from the surface, it appears to be
ond the bels that the influence of malaria is too much
looked: in this sympathetic doctrine high & continued
mospheric heat is so universally attended with the
olvication of miasmata that it would seem extremely
ficult to say how much of the previous Hepatic ex-
lation and consequent atony is to be ascribed to the
the other of these causes that a very considerable share
the effect in question is to be placed to the account
Malaria, seems to be demonstrated by the fact that
ilious and Hepatic affections are [illegible] from being
mmon on board of ships cruising in tropical seas
d where the materials for the extrication of mias-
atic exhalations are absent, altho the influence of
mospheric heat is constant and great besides the
ding causes just mentioned, there are many others
a less general character capable of giving rise
this affection. Violent and fatiguing exercises
ortions of the right hypochondrium, wounds & injuries
the cranium, atmospheric vicissitudes, & draft of
ld Water while the body is in a state of free

respiration, irritation from billiary concretions in the
gall ducts, violent rage, terror and mental dispondency
may all give rise to acute inflamation of the Liver.

In the treatment of acute Hepatitis the general means
of obviating inflamation are to be rigidly enforced by
strictly emplaying the antiphlogistic regimen after general
and copious bleeding. The most early recourse should
be had to depletion from the part by cuping over
the region of the Liver, this operation should be re-
iterated in ten hours should the increased pasculat-
ion continue unabated, for here no time is to be
lost in checking the progress of this violently acute
stage of the Disease. Where cuping is objected to by
the patient, leeches may be substituted encouraging
the bleeding for some time, and should no materiall
relief be then obtained general bleeding may again be
resorted to, to the extent of twelve or Sixteen ounces
drawn from a large orifice, - to suspend the momentum
of increased power of circulation, producing faintness
even to deliquium, - this of course must be regulated ac-
cording to the nature of the case and strength of
the constitution, and left to the judgement of the
practitioner. As soon as blood has been drawn to
the extent sufficient to make a manifest impression
on the system an active mercurial Cathartic must be
administered from fifteen to twenty grains of Calomel
followed in about two hours by a full dose of Castor
oil, constitutes an appropriate & efficient purgation
in this disease, - should the inflamation spread
itself likewise over the peritoneum and invest the
whole of the abdominal viscera which is often

by the patient being unable to extend his chest with-
out suffering considerable uneasiness, but leans forward
In order to diminish the tention of the muscles and
integuments of the abdomen, bleeding must not be lost
sight of as our sheet anchor, but must be repeated
again and again at no distant intervals if the disease
be not disposed to yield, this is a critical period of
the disease and one of the greatest danger, it is indeed
a very moment which if neglected the foundation
of all the miserable sequel of the complaint is laid
and if allowed to pass an evil will accrue that all
our after precautions can never altogether remedy.
The modern practice of large and extensive bleeding
has been found by the most eminent practitioners
of late to be the only successful mode of treatment
in this as in other active inflamations, it has been
observed that small bleedings only suspend for a
short period the increased action without effecting
the permanent check which is necessary for our desired
end disease. The bowels should be kept in a loose
state through out the whole course of the disease &
calomel must always constitute a principal ingredient
in the purgatives employed, the use of a low vegetable
diet consisting of gruels tapioca and other mild farin-
aceous matters in a thin form & we cannot omit
expressing it as the result of ample experience that
this as well as in other acute diseases at the com-
mencement of farinaceous or gruel diet should be
strictly enjoined & on no account whatever should
animal food be permitted either in broths or otherwise
however its strong inclination in this state of the system

to induce a putrescent disposition and thus aggravate the already septic tendency of the principal secreted fluids — after full bleedings general & topical without alleviation of symptoms, — a large blister should be applied over the affected part, most particular attention should be paid to the bowels & every discharge from them most carefully & accurately surveyed, as it will furnish to the vigilant practitioner information of the highest import & will convey to him the unerring intelligence of truth as it regards the character of the secretions; without this examination he will be labouring in the dark on matters of the most essential interest to the welfare & security of his patient, his attention is ever required in all acute Hepatic cases as auxilliaries to bleeding, purgatives, calomel & antimonials will in general be useful while the stomach is not too irritable. Thr pulvis antimonialis in the dose of about three grains may be given, either in combination with Calomel & Opii or in union with the nitre or the sulphate of Potash every three or four hours & to promote the diaphoretic operation of these remedies as well as their specific effects of relaxing the warm or tepid bath will frequently be found useful when the inflamation has terminated in suppuration, an event which is announced by the occurrence of rigors a sense of sinking and anxiety in the praecordia, night sweats & occasionally a mitigation of the skin with a fulness & feeling

of weight about the margin of the ribs & a dull throbing pain in the Liver. The further employment of mercury with a view to its general influence is improper if the local symptoms & the state of the pulse and of the system seem to require it, the application of a few leeches in the vicinity of the tumefaction ~~the~~ will be generally serviceable afterwards poultices should be assiduously employed with a view of promoting the external pointing of the abscess, the bowels also should be regularly though gently evacuated after the formation of abscesses has taken place which may best done by five or six grains of Calomel followed in a few hours by a small portion of one of the neutral purgative salts - when the abscess does not point externally, nothing more can be done, but to palliate symptoms as they rise & wait for the event. In instances where the abscess does point outwardly & the fluctuation of the matter can be distinctly felt, an opening should be made into it to exit given to its contents, but this operation ought not to be undertaken precipitately & before purulent formation has made its way sufficiently near to the external surface of the organ or over the point at which it points has formed adhesions to the opposite parts of the abdominal viscera. The practitioner should also be fully convinced from the state of the tumor in the

the hepatic region and from the history of the case
that abscess actually exists & that the tumour does not
proceed from an excessive accumulation of bile in the
gall bladder when the pain and general fulness are
diminished and replaced by a distinct tumour without
acute pain, soft and fluctuating at its apex or emit
soft elastic & slight or [illegible] of the surface
over what hardened & elevated base. The operation may
be undertaken with every expectation of success the opera-
tion paracentesis thoracis has been successfully performed.
In cases where the abscess has burst into the cavity of
the thorax after suppuration had taken place & the matter
found a favourable exit, there is perhaps no remedy
which will afford so much advantage as the nitro muriatic
acid, it may be employed both internally & externally
in a foot bath — equal parts of the nitric & muriatic
acids is the proportion in which they are usually employed
from a half to whole dram of this mixture diluted in
a sufficient quantity of Water may be taken daily & in
order to prevent the acid in coming in contact with
& injuring the teeth, it should be sucked through a small
glass tube or quill, or the feet & legs may be immersed
from thirty to forty Minutes every evening in a warm bath
of the strength at first of half an ounce of the acid mix-
ed to a gallon of Water & afterwards gradually increased
in strength to the amount of Six or eight drams to the
gallon. In two instances of Hepatic suppuration from

cute inflamation the patients recovered completely under
e protracted use of this bath— Considerable advantage
ay also be obtained in suppuration of the Liver from
nall doses of the muriate of mercury in union with
e extract of cicuta in the proportion of one tenth of a
rain of the former to two grains of the latter three times
ily. Mr Annesley has derived advantage from the
ric acid in combination with Laudanum hyoscyamus
Conium, particularly when the abscess has opened
the lungs— When in cases of this kind the system becomes
uch exhausted & the night sweats are copious &
here the digestive powers fail, recourse ought to be had
some of the tonic bitters in conjunction with nitric
id & the extract of Conium.

Thus much for Hepatitis in
its various acute Stages.

An Inaugural Thesis,

on the

Pathology of Inflammation;

Submitted to the Provost,

Professors, and Trustees,

of the

Medical Department

of the

University of Maryland,

for the

Degree of Doctor in Medicine

by

William L. McManus,

of

Baltimore, Maryland

March, 1833.

Introduction. —

In offering an introduction to my inaugural dissertation, I do not know how I can better accomplish my purpose than by taking a brief view of the effects of that great First Cause called Deity.

When the stupendous works of nature are presented to the eye of the casual observer, he sees in them nothing but a rude mass of shapeless matter; but, when observed by the scrutinising and philosophic eye of the naturalist, he finds food for his intellectual fire, and revels in the pure luxuries of mental banquet. By him are seen the various links in the chain of type connecting the diversified products of nature. He traces, on the one hand, an analogy between man and the most insignificant insect, — on the other he finds the resemblance to extend to the earth itself. He sees man sustained by his vital fluids, and the earth nourished by its gushing streams. When, directing his eyes to the firmament, while veiled in the shades of night, and observing the gorgeous

P.S. London

splendour of its spotted gems, disposed with a regularity the most orderly and beautiful, he beholds them as so many suns suspended in the immensity of space, each for the purpose of illuminating its own particular globe; — he sees there the innumerable aggregate of heavenly bodies, divided into different systems, and, while indulging in the contemplation of them, he discovers the laws by which they are governed, and their regular and harmonious submission to their limits. He then asks the question — "How do these terrestial bodies become visible?" His knowledge of Astronomy informs him that each system has for its centre a star or sun, which shines by its own inherent light, and supplying the system for which it is destined, the luminous rays are reflected to this earth.

There is something in the contemplation of terrestial bodies which imparts to the feelings a secret conception of sublimity not known to arise from the consideration of any other of the productions of nature. When we reflect on the thousands of suns, multiplied without end, and arranged at immense distances from each other; moving with rapid velocity, yet calm, regular and

[harmonious

and harmonious. And invariably keeping the paths which deity prescribed for them; When, also we reflect that these worlds are doubtless inhabited by myriads of people, equalling and probably excelling those of our own globe, both in mental culture and bodily stature, how vast, how magnificent the contemplation? Again, whilst the planets perform their periodical revolutions around the Sun, by which the existence of our year is regulated, their motions on their axis of each gives us the alternate succession of day and night.

By what means, it may be asked, are these ponderous bodies suspended in the immensity of space; or what secret power retains them in their orbits, and enables them to move with so much regularity and harmony? The naturalist will answer, — Gravity, or attraction is the powerful agent; the universal principle of this equilibrium, and of these motions. By this power they tend towards each other in a proportion relative to their bulk. Thus the planets tend towards the centre of the System, into which they must inevitably be precipitated, were it not for their repulsive power, implanted by the wisdom of the Omnipotent Being who con-

[ducts them

conducts them. 'Tis strange when we consider that the same principle which determines the fall of a stone, is the ruling principle of the heavenly motions. Little it is true; and immortal be the name of the man who discovered it.

We owe all to Astronomy — that noble science which has elevated Man's mind above his own sphere, and above the sphere of the globe he inhabits. It has taught us that our globe, whose diameter is nearly eight thousand miles, is almost a thousand times smaller than Jupiter, which appears to the naked eye as little more than an atom. Yet it too; we have learned of the Moon, (the nearest of all the Planets to the earth,) that its globe always presents the same surface, by turning upon its own axis precisely in the space of time that it revolves around the earth. In a word, we are indebted to Astronomy for the knowledge, which while it points to the infancy of man, and the greatness of his Creator, excites wonder in the ignorant, and admiration in the learned.

When, therefore, we take this survey of nature, nothing can be more splendid — nothing more correct — nothing more amazing. And when we behold

[our own

our own bright luminary, fixed in the
centre of its systems, wheeling its planets
in times proportioned to their distances,
and at once dispensing light, heat
and motion; and the earth with its
two-fold motion, producing by the one,
that change of seasons, and by the other
the grateful vicissitudes of day and night.
With what silent magnificence is this
performed! - With what seeming ease!
Let us now pause for a moment
to contrast it with the works of art. -
The latter are effected with an interrupted
force, and their parts discover
the obstructions they receive; but the
earth with a silent and steady rota-
tion, successively presents every part of its
bosom to the sun, and at once imbibes
from it nourishment, light and ani-
mation. We will now descend
to our own earth, and what do we
see there? First, we behold immense
and trackless tracts of land, covering
the most trifling seeds into rich and
beautiful vegetation. We see again,
two thirds of the earth's surface covered
with extensive sheets of water; this
water serving as a means of convey-
ance from one nation to another,
and, at the same time refreshing the

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vegetable kingdom, by evaporating to the clouds, and again descending in fruitful showers of dew. Again, we behold the appearance of Mountains, diversifying the prospect; - in the evening we are invited to rest by the genial breeze; and, in the morning we are invigorated for labour, by the rising sun and the dew-moistened face of nature. Such are the delights of the habitation designed to Man, and such are the works of Omnipotence.

Having thus premised these general observations, I will now proceed to the consideration of the subject of my thesis, without offering any apologies for its defects, for I fear they have become more fashionable than natural. For those who are disposed to regard this thesis with the critics eye, I have only to say that my youth and inexperience must plead for its defects.

Wm L. M. Stones

On the Pathology of Inflammation.

The subject of inflammation is one which has engaged the attention of Medical Physiologists from the earliest ages down, and still exists as a popular theme of debate. It is certainly one which should occupy the deepest consideration of every Physician; for, without a knowledge of it, many of his practical doctrines must be frustrated. This assertion will be proven when we reflect on its intimate alliance with fever; and some, indeed, have considered them as mere modifications of each other. Thus the Practitioner views it as his land-mark, and as such, is justly guided by it.

In considering this subject, the first question that presents itself is — "What is inflammation"? I would define it — "the debility of a part, giving rise to congestion," and hereby declare my opinions of its proximate cause, and of its essential nature.

I First.

First, that it is "produced by debility," I infer, not only from experiments, but from the fact, that congestion could not arise in a part, the action of whose vessels is increased, and which increase of action would consequently through off more blood, than they had received; and, secondly, that it is strictly a congestive disease, we are led to believe from the "phylosophical way in which congestion will account for the "phenomena characteristic of Inflammation.

Now, to recur to our first "position. The older "physicians, and among whom I may mention Galen, considered a super-abundance of the humor-sanguinous to be the cause of inflammation. Boerhaave referred it to an obstruction in the small vessels, occasioned by the viscocity of the blood; and Doct. Cullen thought it could be referred to his favorite doctrine of "spasm of the extreme vessels". It now fell into the hands of Mr. Hunter, who conceived that the action of the vessels was materially concerned; and, in virtue of this view made it a question, whether the action was increased

[or diminished

or diminished. "The action inflamma-tion", says he, "would appear to be an increased action of the vessels; but whatever action it is, it takes place, most probably, in the smaller vessels, &c." — Now, when Mr. Hunter speaks of the increased action of the vessels, does he have allusion to the Contractile coat? If so, what must be the effect of a contraction of this coat. We know that its fibres run transversely, whether they be Muscular or fibrous; — then, would not their contraction diminish the calibre of the vessels? And is this consistent with the "Phenomena of inflammation"; — for we all admit that in this Morbid condition the vessels are distended. Does he ascribe then, the increase of action, to the action of the elastic coat, which antagonizes the contractile?; if he does, the consequence would only be, a greater tendency in the vessels to preserve their natural calibre; so that either the one position or the other must be fallacious. For to admit that inflammation depended on an increased action in either of these coats, would be synonymous with the statement that the vessels contained less blood in [Inflammation

inflammation than what existed during the performance of their natural and healthy functions, and such we know is not the fact.

Sir Astley Cooper, who also advocated the doctrine of increased action, resorted to experiment to prove that position, which reason did not sustain him in. "When", says he "the tail of a tad-pole is placed under a microscope, a surface appears intersected by rivulets of blood; in which the red particles may be seen rolling on in a most beautiful current. The part, says he, is now irritated, — almost immediately the velocity of the circulation appears to be increased; in a few minutes branches of vessels appear to be growing out of the sides of those before visible, into the transparent part." These vessels are now seen receiving a red particle or particles of blood, which gradually advance in them, forced forwards by a vis-a-tergo, until they reach the beginning of the corresponding vein; and, then, this vessel being larger than the artery, the red particles rush from the artery into it; and thus, a new vessel appears to be created under the eye. It is not, however, a new vessel, but a serous

[artery

artery; which, by the force of the action of the heart and surrounding vessels, becomes dilated so as to receive red particles."

Thus far the author's experiment would appear at first sight to favour his doctrine; but in another part of the same paragraph, he continues — "When the red particles are observed in the vessels, they seem to advance by the pulsations of the heart, and then slightly to retreat; but not in proportion to their advance, and thus they gradually proceed." I would ask, how this last observation can be reconciled with the one made in the former part of his experiments? "When we say," he says, "on the application of an irritant almost immediately the velocity of the circulation appears to be increased;" that the action of the part is increased on applying a stimulant, I grant; but the question is, whether the action is not diminished before inflammation is established. It would appear so from the conclusions of the author's experiment; for, as I before stated, he observes that the particles of blood in the inflamed part, as they advance seem slightly to retreat. Now, if the particles

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in the vessels retreat at all. What does it prove? Does it not prove, most incontestibly, that there is an inability in the vessels to carry it forward? Then what is the difference between the terms inability and debility? the one will define the other, so that they are perfectly synonymous. But to proceed with the experiments of Sir A. Cooper:— "They," says he, speaking of the vessels, "become considerably dilated, and they seem rather disposed to yield than to contract." This is a fact we will not deny; but how does it agree with the experiments of A. Phillips Wilson, M.D. who has proven, by the following experiment, that when stimulants are applied to the web of a frog, the vessels become smaller and paler. This author says:— "All that is necessary to determine whether inflammation consists in increased action of the vessels is, to induce such an action, and observe whether inflammation is the consequence. Having adapted the web of a frog to a microscope, I now and then observed the velocity of the circulation for some minutes; which during this time continued as far as I could

I could judge, the same. I then wetted the foot with distilled spirits, and in a few seconds observed the blood in all the vessels, now with a wonderfully increased velocity; which, as I constantly kept the foot moist with spirits, continued as long as I observed it, — ten minutes, or a quarter of an hour. But, during no part of the time could I perceive the slightest symptoms of inflammation, either with or without the microscope. The vessels, instead of appearing redder, and more turgid, were paler and smaller than before the application of the spirits."

I think this experiment will clearly prove that inflammation is the consequence of debility, and not of increased action; for, the symptoms related by the author, as resulting from the application of stimulus, are diametrically opposite to those attendant on the presence of inflammation.

The essential nature of the disease, as first admitted to still remains to be considered, namely, that it is strictly consecutive in its nature. On the principle of congestion

[illegible] can

we can account for all the symptoms of inflammation. First, the distended vessels preying on the nerves, will give rise to the pain; Secondly, the distention alone, will produce tumefaction; Thirdly, the increased redness is evidently caused by the accumulation of red particles of blood in the part; And, Lastly, the accumulation of blood in the part, consequent upon congestion will give rise to the disturbing sensations of heat experienced in the disease. Congestion, too, will account very satisfactorily for the diminution of pain in that form of inflammation, in which a translation takes place from the acute to the Chronic form; for the congested vessels, preying on the nerves previously unaccustomed to such pressure, produce the acute pain; but this pressure continuing, the nerves gradually become accustomed to it, from the influence of habit, until they no longer take cognizance of it as a source of pain, but merely of inconvenience, when the pain is blunted and obtuse.

Mr. Hunter appears, by his experiments, to have put the question relative to the increased intensity of heat to a stand; but, that there is an increased quantity, I have no doubt; — for we know,

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in the first place, that the blood is the medium through which the heat is conveyed to the various parts of the system. We also know, & the inference is just, that each particle of blood contains a given quantity of heat; — Thus, if this be the case; an increased accumulation of those particles, must, of course, give rise to an increased accumulation of heat. —

Dissertatio Medica
Inauguralis
De
Rubeola
Subjecta Praefecto, curatoribus et Facultati
In
Universitate Mariæ Terræ
Pro Honore Doctoris Medicinæ
per
Benjamin F. Houston
Mariæ Terræ.
Martius Anno Domini
1833.

Meæ carissimæ Matri

et

Meo dignissimo Amico Doctori Nathaniele Potter

Professori

Contemplationis et Exercitationis Medicinæ

In

Universitate Mariæ Terræ

Hæc pauca pagina reverenter dedicata sunt

Auctore_

De Rubeola.

Febris contagiosa cum sternutatione, aquosis oculis, et tussi sicca rauca designat hunc morbum.

Quarto die vel paullo serius erumpunt papulæ exiguæ, vix percipiendæ, et post tres dies in squamulas furfuraceas minimas mutatæ.

Sub initio Januarii ingreditur Rubeola; atque in dies magis invalescit donec, instante verno æquinoctio, etiamnum adepta, exinde iisdem gradibus imminuta: Julio sequenti penitus extinguitur. His annis plerumque maioribus Rubeola viget; interdum vero Sole æstivo indomita infestat, nec prius quam tempus autumnale æstuat penitus abigitur.

Ægri primo die rigent, horrent que, calent et frigent alternatim; secundo consummatam febrem accersunt. Anxietas vehemens, sitis, lingua alba (non vero sicca) tussis, capitis et oculorum gravedo, et somnus perpetuus, acriter premunt; humor e naribus et oculis jugiter stillat; quæ lacrymæ certissimum signum Rubeolæ. Hinc accedunt sternutatio, tumor palpebrarum paulo ante eruptionem, vomitus, diarrhœa cum dejectionibus colore viridi. Symptomata ingravescunt ad quartam usque diem, quo quidem die, nonnunquam quinto, in fronte et facie maculæ parvæ, rubræ, pulicum morsibus persimiles, prodeunt, quæ numero et magnitudine auctæ, racematim coalescunt, et faciem maculis rubris interstinguunt; hæ maculæ e parvulis papulis supra cutem paulatim elevatis, conflantur, quarum protuberantia digito levi, vix oculorum acie, reprehendi potest.

A facie, quam primo solum occupant ad pectus, ventremque, crura deinde, propagantur maculæ: In his autem partibus latæ et rubræ, superficiem cutis non superantes conspiciuntur. Eruptione

Rubeolæ non perinde delinimentur symptomata ac in variolis. Vomi=tus post eruptionem nullus; sed tussis et febris cum spirandi difficul=tate augentur, in oculos defluxio et somnus, perseverant.

Die sexto aut circiter, frons et facies aspergescunt, emorientibus pustu=lis, ruptaque cuticula: in reliquo corpore, maculæ latissimæ sunt, et maxime rubescunt. Octavo circiter die, in facie evanescunt, et vix in reliquo corpore permanent: Nonnullæ sunt; per faciem vero et artus, quandoque et totum corpus, in farinam quandam et squamulas faciunt: et tunc temporis febris, difficultas spirandi, et tussis augentur.

Exsequitur non semper decursum regularem, et visitatorem jam designatum Rubeola, tussis molestissima siccaque eruptionem quatuordecim vel plures antecedit interdum dies: humeros et truncum corporis primum occupant papulæ; et more insolito, quarto nunc serius die, erumpunt: nunc tertio, vel die secundo, febre urgente, grassantur: nec morbo devicto cuticula adinstar farinæ desquamatur. Signa præludii æque ac eruptionis gravissima sese exhibent, his anomalis ægrum infestantibus. Aliquando post regi=men intense calidum, clivescunt primo, mox nigrescunt exanthemata; vel petechiæ intervalla papularum obsident. Feminis, paroxysmis hystericis, vel catameniis febri rubeolosæ supervenientibus, tardior eruptio provenit. Hemorrhagia de naribus, ventriculo, vel utero, sese aliquando huic morbo associant. Hic observandum est, morbum regularem sed frequentius anomalum sæpe excipere dyspnœam, et tussim molestissimam, non sine febre: Somnus fugit oculos nocte dimque, et anxium infelicem ægrum interdum Peripneumoniam comitit, febre rubeolosa discussa.

Morbi, omnimque symptomatum fugam aliquando sequitur, et ad plures septimanas excurrit diarrhœa. Ophthalmica et angina interdum Rubeolam comitantur et excipiunt—

Non infrequenter Rubeola epidemica sævit, et pauci invicti, nuperrime nati, illius afflatum propulsant: Hinc recte Cullenus plerumque hunc morbum infantes adgredi affirmat; Sed nec ætas provectior adultos vi contagionis arcet: validiss = imo propugnaculo sibi morbus est: et prima tentatio recidiva occurrit, si modo hominibus praxi versatissimis ulla fides adhibeatur—

Duosdam morbum bis tantummodo memoratur: Sed forsan culpa observationis accuratissimæ ad hanc conclusionem adducti, fuere Medici, hoc anomalo decepti; eruptionem nempe rubeolosam recessui subito nec signis infaustis succedentibus, interdum obnoxiam esse, et iterum elapsis tribus vel duabus septimanis in lucem prodire, postea que decursum regularem absolvere, causa retropellente et obstruente, quodam auxilio excitante vel antispasmodico, cute detracta: Hic exitus papularum recid = ivus mihi videtur ex primaria contagione originem dux = isse, neque infectioni novæ tribuendus: vel forsan papularum sine febre rubeolosa ex concubitu eruptio, pro morbi recidiva, traditur immerito quibusdam—

Morbum hunc discernere ex cæteris exanthematum generibus, oportet in contemplatione medica; ut vero huic nosmet accingamus operi parati sumus industria Nosologica Methodica cultorum in auxilium accersita, qui genera morborum distinctis suis definitionibus adornarunt. Præcipue his morbis discrimin-an-

=dis insudandum est qui Rubeolam propriis reperant.
Erysipelas non ex papulis parvis supra cutem paulatim emin
=entibus conflatur. Serpit per cutem universam, sed non prius quam
deserat primum occupatam. Nec erumpit nec abit certo die
morbi.
A Variolis differt Rubeola, quod papulas rubeolosas praecedunt
stemutatio, aquosi oculi et tussis sicca rauca: hoc praeludium
vix unquam Variolam praegreditur. Papulae minus supra cutem
eminent quam in Variola; nec ut pustula varicosae in
suppurationem et crustas abeunt; sed plerumque in furfuraceas
minimas squamulas vergunt, nec foeda vestigia relinquunt.
Si Variola maligna morbi confluens cum his symptomatibus
catarrhalibus stipata ingruat, diagnosis perspicua accipienda
est ex morbo epidemico et decursu omnium signorum, omnibus
praecipis rite perpensis.
Miliaria a Rubeola discrepat, quod in certo die morbi erumpit,
papulae non faciem obsident, nec desquamatur, sed ostendunt min
=imas pustulas albas post unam vel alteram diem. Differt insuper
duritia, aspritate et eminentia papularum.
Scarlatina a Rubeola discriminat in pectore uniformis rube
=do, quasi vino rubro perfusa foret cutis: Maculae rubeolosae
separantur angulosis intervallis; scarlatina autem non sunt
perinde uniformes ac in Rubeola, et sine praeludio catarrhali
enascuntur.
Petechias a Rubeola discernere licet, quia maculae petechia
=les sunt lividi coloris, et exacte circulares: verum rubeolosae
sunt magnitudinis et figurae incertae, et cutem supereminent.

Ex prima morbi invasione deducimus. Febris rubeolosæ aggrediens his signis stipata viribus admodum prostratis, algidis extremis corporis membris, inquietudine perpetua, deglutitione difficili, delirio, capitis et oculorum dolore, cum sudoribus profusis, præsertim in ætate provectioribus, morbum malignum designat.

Exceptis tardior quarto vel quinto die plerumque Rubeolam malignorem comitatur: color sanguineus papularum benignior videtur, a nitente recedens: color lividus, vel purpureo accedens, periculum minitatur, et viridis vel maculæ purpureæ mortem frequentissime prænunciant.

Si retrocessionem subitam papularum, delirium, anxietas et dyspnœa statim excipiant, actum est de vita, nisi superficei maculæ iterum accedant, vel criticus alvi fluxus superveniat.

Tussis continua cum alvi profluvio et inquietudine infaustum præsagiunt eventum.

Tussem infrequentius urgentem, cum expectoratione blanda, cenem diaphoresem, alvum solutam et regimen antiphlogisticam ab initio morbi usurpatum, quasi eventum faustiorem præcedentia habere licet.

Profusiones nimiæ sanguinis mali sunt omnes, sed interdum hemorrhagiæ e naribus stillantes et febri levamen adferunt.

Qui plerumque Rubeola correpti ad plures migrant, nono die peripneumonia suffocantur; præsertim si calidioribus medica=mentis usi fuere.

Multos, jam morbo superato, vexat alvi fluxus tabescens, in aliquot hebdomadas productus, qui tandem macie sensim confecti ad <u>superos</u> migrant. Plures, febris morbum excipiente

non sine sudoribus colliquantibus, pulmonibus tuberculis vel vomicis obsessis, vel glandulis mesentericis obstructis et suppuratis placide tandem obeunt, viribus exhaustis. Si ægrotantem fatum tardius expectare conceditur; non vero tubercula, summi mali phthisis pulmonalis, causam insidiosam, Rubeola post se relin=quit.

Rubeola ex quadam materia morbifica, contagiosa, in Systema nostrum recepta, ortum ducit; sed nostros sensus evadit indolis ejus investigatio; qualia ex ejus vi oriantur, clarissime dilucent; sed ratio agendi summo in discrimine versatur. Mihi fas sit aliquod ratiocinium proferre ex signis morbi deductum.

Si Rubeola contagiosa sit, si sanum ex infecto insitione tentare datur, quis velit recusare reciscere huic morbo sese, causam proximam morbificam materiem: illa vi specifica pollente, fluidorum quædam pars ad illius indolem assimilatur; in Systema humanum hæc contagio recepta, et commista sanguine sic crescit eundo.

Si aliquod ratiocinii ex signis deducere licet, vi stimulante præditam esse hanc materiem morbificam videtur, vimque arteriosam muscularem intendere; hinc gignitur diathesis phlogistica vel aucta arteriarum vis contractilis; febris molimen naturæ, ad expellendam noxiam e corpore potesta=tem, hoc morbo excitata, tali diathesi stipata, nomine Synochæ ab auctoribus recepto gaudet.

Cordis vasorumque impetu jam aucto, nullum excretum perspirabili prius effunditur: his etenim viribus excitatis, copia insolita, humores arterias extremas corporis superfic

=iem inorantes attingunt, potius quam partibus interiis distribu
=tas, perspirationemque vasa exhalantia cutem obsidentia excernunt,
nullo opitulante apparatu glanduloso, qui illius excretioni expe
=ditæ obstaret. Nec sobolis arteriosæ exhalantes, membranæ trachææ
et narium inservientes, hujus excretionis effluxui obstant, quin
contra eo facilius emittunt quo spasmo arctiore arteriæ cuticulares
=res constringuntur: materies rubeolosæ hac excretione ad aliena
et noxia e corporis fluidis eliminanda parata eluitur, et
cutis exanthemata, hac advecta, prodeunt—
Diathesis phlogistica, tempus anni vernale, quo frequentius Rubeola
incumbit, et Synocha vera stipans, minus excretioni sudorif
=icæ per cutis emunctoria favent; et hæc qua data porta mem
=branam narium et trachææ petit, non sine materia rubeolosa
comitante; aucto jam vasculorum impetu, his partibus inser
=vientium, et fluidis huic membranæ appulsis, cute obstructa;
primo morbi stadio, inflammatio quodam gradu membranam
supradictam tentat; illius sensibilitatem intendit, orbat
muco obliniente qui illam ab acribus tegebat. Hoc fonte
fluxit præludia catarrhalia: irritatio e naribus ad oculos
provecta hos lacrymantes reddit—
Mihi videtur, suam symbolam conferre ad hæc symptomata
excitanda vim quandam materiæ rubeolosæ propriam;
nam catarrhi sporadici, suppressa perspiratione, infestant,
nec in his æque sæviunt signa—
Tussis non ad mortem morbi sicca cursum tenet, sed
excretio tenuis et acris e naribus et trachea effluit,
tussi et sternutatione ingravescentibus; hoc explicandum

est, ex copiosa defluxione, humoris perspirabilis, cum materie rubeolosa, quæ glandulas ad mucum deplendum stimulat prius quam per cutaneam concedatur absorptis partium tenuioribus, relictis tenacibale præditis ad membranam tegendam paratis—

Ad diathesim phlogisticam nunc adverterendum est.

Hæc ex morbi causa originem ducere videtur; infantes enim vel quos ætas tenera minus phlegmasiis obnoxios reddit, nec fugit Rubeola, nec in his sæviunt parcius signa catarrhalia, sanguis que eorum vasculis detractus superficie coriacea phlogistica nuncupata subflavescit, spasmo phlogistico vasculis extremis astrictis, febris gravius urget, hæmorrhagiæ effluunt, nec febri remitti datur, papulis cute rubescente. His desquamatis supervenimunt vel peripneumonia exitialis, diarrhœa, aut opthalmia; nisi sanguinis detractione vel vesicatoriis præcaveantur, signa talis diathesis post morbum relicta—

Nonne explicare licet phlegmasiarum causam, precipue pulmonum obsidentium, morbo præcedente ad impetum auctum fluidorum resistendum ineptos reddito, Rubeolam longo tempore peracto excipientium potius ex diathesi phlogistica morbo debicto relicta, quam ex ullius rubeolosæ materiei reliquiis, hypothesi plurimis accepta?

Nonne ex tali diathesi diarrhœa pendet Rubeolam æque ac erysipelatam venesectione curanda excipiens? Rubeolæ theoriæ nec adversantur petechiæ et vibices præmia regimenis calidioris hoc morbo erumpentes, nec quod febris

typho similis, nonnullos tempore æstivo Rubeola correptos, corpore tenui infirmos, vel viribus morbo prægresso fractos adoriatur; quoniam phlogistica diathesis argumentis nuperrime prolatis abunde probatur: his tamen anomalis consilium medendi derigendum est. His expositis, ad curationem nunc transeundum est.

Ratio medendi tres indicationes complectitur.

I. Diathesis phlogisticæ occurrere.

II. Signis catarrhalibus obstare.

III. Sequelis morbi infaustis obviam ire.

I. Ut diathesi phlogistica occurramus, imprimis curatio dirigi=tur. Huic consilio inserviunt auxilia quæ tensioni vasculorum stimulo valentissimo obstant, et causas externas stimulant=es arcent. Talia præcipue sunt,

1. venesectio. 2. Cathartica. 3. Regimen antiphlogisticum.

1. Hæc longe cæteris auxiliis antiphlogisticis antecedit; vas=culorum fluida deplet, et tensionem aufert, vim muscu=larem arteriosam excitantem, præsertim si diathesis phlo=gistica polleat. Ex Cullene traditum est, exanthemata nigrescentia post regimen intense calidum adultis contin=gere; de quibus conclamatum est, nigredine premium conspecta, nisi phlebotomia, et temperatioris regiminis refrigerio, iis actutum subveniatur. Memorat febrem cum dyspnœa, quæ Rubeolæ recedenti supervenit, præsertim in infantibus regimine justo calidiore adhibito, in vitæ discrimen adducente, se curavisse phlebotomia; adducta sanguinis ea quantitate, quam ætas vires que indic

=arent, et morbo urgente se hanc iterare. Quin et Rubeolam diarrhœam excipientem, venesectionem paritur curavisse narrat.

Febre incongruente rubeolosa, mittendus est sanguis; preser=tim si æger flore ætatis vigeat, virium ægri et febris impetus ratione habita, si corpus morbis prægressis labe=factum Rubeola corripiat, si vires deficiant, vel æger tenerioris ætatis sit, parcius venæ tundatur. Nullo morbi stadio, quo febris, dyspnœa, signaque catarrhalia ingraves=cunt a sanguinis missione abstinendum est, si ferant vires.

Papulis subito recedentibus, peripneumonia, delirio et stupore accedentibus cum pulsu magno et valido, venesecti=one ægro succurrendum est: quippe ejecto sanguine, papulæ cuti rursus accedunt, nec sæviunt signa infausta ulterius.

Nono die morbi, Rubeola desquamata, peripneumonia sæpe infestat, et morte ægrum minitatur: hoc stadio, nequaquam venesectio omittatur; peripneumonia adventuram præce=dit: vel si æger hoc summo malo laborat, eodem occurren=dum est auxilio.

Primis diebus, nisi postulent signa, ne venesectio temere repetatur; sanguinis jactura nimia pro causa forsitan esset, quo minus copiosam nono die salutiferam venesectio=nem bene ferat æger.

Jactu continuo et celeri detrahere prodest, et vulnere lato incidenda est vena. Potius confidendum est venesectio=ni celeri, quam copiosæ, ad diathesim phlogisticam

oppugnandum –

2. Cathartic:. Quatenus praxis purgans in Rubeola ac in variolis, prosit non adhuc ex experimentis compertum habemus – cathartica laxantia omnibus morbi stadiis sunt adhibenda: obstant enim quo minus in dies alvus adstricta sit; et feces subducunt, vim febrilem excitantes. Porro haec subductio fluidorum intestinalium systematis tensioni resistit –

Laxantia clysmata in dies injecta, alvum astrictam solvunt: deluentibus quae fluidis infantes, potum recusantes, supplent. Longe arcenda sunt purgantia drastica; ne sua vestigia, atoniam et irritabilitatem intestinorum, relinquant, vel aquam diarrhoea tabescenti obnoxium reddant; Rubeola devicta: eadem quae infestante, febrem et debilitatem haec quoque intendunt. Nitrosa hoc morbo propinata, pul=mones irritant, et tussim molestiorem reddunt; presertim si materies tenuis et acris e pulmonibus excreatur: si pul=mones excreant materiem viscidam et tenacem, hi sales prosunt, et febrem sedant –

3. Aut: Regim:. Quantas in Rubeola aque ac in variola strages edant regimen phlogisticum et medicamenta cardiaca, sit mihi Cullenus fidelis testis –

Exanthematum idiopathicorum eruptioni regimen calid=ius justo obstat; vel si febris incanduerit, praematurius cutem obsident papulae petechiis et effusionibus sangui=neis comitantibus. Praxis recentior frigido aere agros variolosos perflari non sine sinit; ex cubiculis illorum

anxia cura olim excluso –

Sed ne aliquis aperat aerem frigidum, tuberculosis admixtum
æque periculosum esse ac auctoribus affirmatur: historiæ
depinguntur, quæ probant, morbillosos frigori et aeri expositos,
facile morbo excidisse. Ex dictis, non sine alea incerta, Rubeo
= cum regimine caloris justo adgredi posse, liquet; Sed ne
fallat vitium specie virtutis et umbra, signa catarrhalia
frigus sibi infestum arcendum esse monent. Quisquis aream
mediocritatem diligit, tuto caret periculo, nec in utramque
partem nimis vehemens est: æquum neque sinit sese impru
= dentur frigidas aeri objectare, neque dum frigus horrescit,
illum adstringit cubiculis igni bus impestivis calentibus;
neque æquum adfigit lecto pertinaciter si nec febris nec
tussis requiem et stimulantium motionem indicant. Medi
= camenta cardiaca amovenda sunt, nisi vires deficientes
resocillare opus sit –

Dieta vegetabilis et refrigerans propinanda est. Potus tepida
= us deglutiendus est, admistis gratis mucilaginosis. Potu
frigido vel acidis sumptis, tussis sæpe ingravescit, et
anguina supervenit toto vasculorum frigore aucto –

II. In hanc intentionem præcipue intendum est auxiliis
quæ ingesta vel externa applicata, humorum facilem ad
vasa extrema, cutem obsidentia affluxum conciliant. Talia
sunt 1. Opiata 2. Emetica 3. Stimulantia 4. Vesicantia –

1. Emetica vi antispasmodica pollent, constrictiones spasticas
arteriarum extremarum solvunt, et cuti excretiones
suas copia deficientes reducunt expectorationem

spasmo retentam faciliorem reddunt, et fluxum humorum trachæa laryngi et bronchiis appulsum dimovent—

Emeticis pareis dosibus assumptis supervenit nausea, alvus leniter subducitur et diaphoresis excitatur; tot et tantis igitur viribus innixi, praxi spectatis, conabimur eorum adhibitionem hoc in morbo indagare. Mihi videtur Tart: Antim:, nec gustu ingratum, nec viribus incertum, pro cæteris hoc morbo emeticis usurpandum esse—

Hoc febre eruptiva ingruente adhibere oportet: sæpissime, peracta vomitione, papulæ ubertim erumpunt, tussis seda=tur, et tertia post eruptionem die, omnia symptomata evanescunt. Sed ne ex diathesi phlogistica phlegmasiæ topicæ vomitione superveniant, venesectio præmittatur; pre=sertim si pulsus nec mollis, nec parvus, levi digito sentiatur. Tart: antim: dandum est, dosibus parvis nauseam facienti=bus, omni morbi stadio, tali adhibitionis ratione viribus suis diaphoreticis et antispasmodicis frui conceditur; nec vomitione ægrum fatigamus, nec effectus fugaces dilabuntur—

Papulis intempestivius recedentibus, comitantibus languore Dyspnœa et pulsu parvo, emeticis ægro succurendum est: si pulsus plenus et durus evadat venesectio præmitt=enda est. Diarrhœa Rubeolam excipienti oppugnandum est emeticis—

Radices Scillarum, vi quidem emetica præditas, sed vi stimulanti et calefaciente pollentes, haud tuto adhibe=re licet, donec febris desinat excandescere; et mucus

ob nimiam tenacitatem ingrato molimine exscreetur –

2. Opiata in systema nostrum recepta vires anodynas et stimulantes exercent; his fluida ad extrema vasa propell=unt, illis spasmum solvunt. verum an in phlegmasiis, vel morbis diathesi phlogistica stipatis opiata propinan=da sunt? Hæc inter Medicos lis agitatur, nec consensu inunanimo lites adhuc componuntur –

Sed nefas est regulis strictis generalibus scientiam medica=tricem arcere; et hoc confirmant de usu opiatorum experimenta Medicis prolata, quæ nec repugnant horum sententiis qui opiata prohibent, febre intensiore Synocha infestante, nullo dolore topico vel tusse urgente, somno quamvis oculis fugato: nec haustu anodyno somnos invi=tare suadent, nulla jactura fluidi vitalis præmissa, ad vim febrilem compescendam: sed ut tussis infesta sedetur, ut dolor excrucians insopiatur, et solamen miseris somnus revertat, opiata adhibere jubent. Tussis rubeolosa irritat pulmones, inflammationem hujus organi excitat, et effusiones in texturam cellulosam pulmonalem vasculis emulget, quæ pectore latent semina Phthisis pulmonalis. Tussem sedant opiata, requiem somnumque invitant, quæ at vires refici=endas, febrem temperandam et eruptionem promovendam haud parum prosunt: spasmum vasculorum solvunt mate=riem exscreandam eliciunt opiata vel muco tenui in suis folliculis remora exceditur sedativo illorum vi.

Opiata commista Tart: Antim: vires diaphoreticas edunt; amboque sic unita vim suam stimulantem paulisper

deponunt. Scillæ vel Tart: Antim:, quo minus tenacitatem excreti muci opiata spissiorem reddant, obstant—

3. Stimulantia ad vires ægri deficientes refocillandas juvant; vinum videtur mihi præ ceteris palmam præripere. Stimulantia cardiaca nuncupata vi callifaciente pollent, quæ illorum adhibitionem prohibet, nisi corpori stimulo intensiore ad suos motus excitandos opus sit; huic intentioni Carb: Ammon: inservit. Vinum languens systema suffulcit; mira præstat si pallidæ appareant papulæ vel recedant intempestivius, languore lassitudine dyspnœa, cum pulsu debili, supervenientibus; si pulsus durus et plenus evadat, his repressis, faustiore eventu vena pertunditur, et regimen antiphlogisticum vino antepo=nitur. Petechiis ex calidis provectis non inconsulte oppugnan=dum est: hæ felicius sanguine detracto et regimine anti=phlogistico propinato evanescunt—

4. Vesicantia cuti applicata spasmum solvunt, vasculorum superficiem corporis irrorantium hoc soluto partes internæ humores parcius accipiunt et vasa interna relaxantur. De preceptore meo erudito Browne experimenta probant, vesicantibus applicatis dolores pleuriticos sublatos fuisse iteratis venesectionibus immorigeros: peripneumoniæ omnem brevi sedavisse dolorem his auxiliis, febrem non modo non intensiorem sed moderatiorem fuisse, multo que faciliora sputa prodiisse narrat—

Eventu fausto post requisitas evacuationes, phlegmasiis succurrere licet vesicantibus—

Vesicantium ope signa catarrhalia sedantur, et

eruptio rubeolosa, si tardius justo cutem obsideat, vel præmaturius recedat, iisdem ad cutem invitatur; sed si febris intensior ardeat vel pulsus plenus et durus evadat venesectione neglecta, non sine periculo vesicatoria appli=cantur. Peripneumoniæ Rubeolam excipienti vesicantibus succurrendum est, venesectione præmissa si vires per=mittant –

Tussis et febris nono die plerumque ingravescunt, nec sine periculo: his semper vesicatoriis obviam irem, nec vires morbo prægresso depressæ æque his ac venesectioni adversantur; vesicantia hoc stadio frequentius applicata morbi periculosas sequelas Peripneumoniam et diarrh=æam præcaverent –

III. st. Præcavendo sequelas Rubeola devicta regimine –

Finita febre rubeolosa, et discussis jam maculis, ne jam convalescens præmaturius justo ~~assumenda est~~ sese aeri frigido committat serio monendus est. Ad perspirationem sollicite promovendam una cum vestibus laneis frigus arcentibus, exercitium foris tempore meridionali calent prodest. Nec dieta animalis præmaturius justo assumenda est: vero victum habeat tenuem et vegetabilem, nisi vires morbo prægresso languentes analeptica requirant – Studiis quæ aciem oculorum intendunt, ne convalescens incumbat nimia sedulitate, si opthalmiam evitare velit –

Si tussis et febris convalescentem infestant sedulo hanc Phthisim pulmonalem agressuram oppugnandum est venesectionibus, parca copia frequenter repetitis.

Emetica ut fluida ad cutem eliciantur, utilissima dentur.
Victu vegetabili et lacteo utantur aegri —.—

Universitas Terræ Mariæ.

Dissertatio de Generis humani Varietatibus
Pro Gradu Doctoris, scripta, James Maynard
Auctore.

"Labor vincit omnia"

March 1833

James Maynard.

~~Ad~~ Johannem Buchler Medecinæ doctorem

Hoc tentamen, Testimonium Amicitiæ,

Ab ejus Discipulo et Amico James Maynard

Dedicatum est.

De Generis Humani Varietatibus.

In varietates tres magnas (figurâ variâ, colore, et specie corporis distinctas) partietur ac dividetur genus humanum; nempè Europeam seu Caucaseam, Olivianam seu Mongoliam, denique Æthiopicam. Regiones varias et diversas, Europæ, Asiæ Minoris, Arabiæ, Persiæ, Indiæque orientalis, usque ad Gangis fluminis ripas, atque in Africâ usque ad Mauritaniam, varietas Europea seu Caucasea, occupat. Partem reliquam Asiæ, et Americam, varietas Mongoliæ seu Olivianæ, inhabitat. Pars maxima Africæ, a varietate tertiâ seu Europeâ, occupatur.

De Varietate Europeâ seu Caucaseâ

In hâc varietate, faciei angulus ad gradus octaginta seu nonaginta extensus est. ~~In hâc~~ varietate, nationes multis signis cognoscuntur. Facies ovata et color albus est, nasus prominens et rectus, os mediocris et formosus, et malarum ossa non valdè prominentia; dentes rectos, oculosque cæruleos in hâc varietate solâ, videmus. In gentes complures et magnas varietas Caucasea divisa est, et in omnibus regionibus, linguas earum congenitas, consuetudines, religionemque conservantes. Familiæ primæ seu tribus, Arabiæ, Judeæ, Lybiæ, Syriæ, Chaldeæque incolas, gentium illustrium

conditores, includit. In familiâ hac, Ægyptios, Phœnicos, Assyrios et Mauritaniæ populos, enumeramus. Hujus varietatis, gentes, linguas diversas loquuntur; et publicarum rerum mutationes innumerabiles, speciem et mores earum non afficisse, cernemus. Sub patrociniis earum scientia et litera floruere.

Familiæ secunda, Indiæ Orientalis incolas comprehendit, populos mites, timidos, superstitioneque imbutos. Persæ antiqui ad hanc familiam magnam pertinent. Hæ gentes polygamiam permittunt, præmature nubant et cum superstitione valdè imbutæ sunt.

Familiæ tertia minùs antiqua est, quam priores. — Hic tribus, Scythios, Tartaros, montium Caucasorum gentes feroces et bellicosas et Circassiæ Georgiæque populos et multos alios (qui à prædâ et rapinâ subsistunt) includit. Hæ gentes in antiquis temporibus sub ductu et imperio Attillæ, in Europam eruptiones magnas fecerunt. Familiæ quarta in Europa rita est, et in partes diversas divisa est. Pars Celtica seu Teutonica, omnes nationes, quæ a stirpe Gothica ortæ fuerunt, ab Bothniæ sinu, usque ad partem mediam Europæ, includit. Gentium harum signa sunt, facies formosa, staturâ alta, crinis flavus, oculi cærulei; illæ sunt indolè ingenuâ, fortes et bellicosæ, artibus et scientiis peritæ. Partis meridionalis incolæ sunt, colore fusco, staturâ minore, in quos, Græcos et Romanos

celebres et illustros de orbe terarum, enumeramus. Inter eos praesertim in priscis temporibus, ars, litera scientia, et philosophia floruerunt.

De Varietate Olivanâ seu Mongoliâ

Omnes nationes terra, in numero superat hac familia. In tribos multos divisa est, sed ejus historia valdè obscura est. Varietatis hujus signa praecipua sunt, facies lata, quadrata et compressa, et malarum ossa non valdè prominentia. Octagenta grados faciei angulus nunquàm praestat. Valdè magna maxilla superior est, tempora compressa, oculi obliqui, mentum prominens, nigra capilla, statura exigua. Ad partes meridionales Asiæ, gens Mongolia porrigat. Harum regionum populi; mites, lenti, et ad luxuriam et voluptatem sunt valdè addicti. Inter has gentes, inhabitos China, Tartaria, Indiâ Occidentalis et multos alios, includemus. Eorum crines recta, et colore nigro, os latus, nasus compressus, cutis flava; moribus mites sunt, et polygamiam permittunt. Artes et scientia in antiquis temporibus, illis cognita erant. Lingua et plitia eorum, artium et literarum cultura sunt aliena. Varietatis Mongolicæ Species pars tertia, eximiâ statuâ valdè insignis est. Ad hanc familiam, Asiæ et Europa septentrionalis gentes pertinent. Hi populi, caput valdè magnum, malarum ossa prominentiâ, nasum latum et compressum, crines rectas nigrasque, habent.

De Varietate Malêâ

Blumenbachius et nonulli alii scriptores, inter varietates diversas generis humani, sub cognomine Americano, unam nominaverunt, et quæ in loco hoc, nominatur Malea. — Malea peninsula, usque ad Oceani Indici insulas, Summatram, Javam, Moluccam, et alias dictas, ab populis, frontem compressam et rotundam, nasum magnum et latum, nares patulas, os valdè magnum, malarum ossa prominentia habentibus, occupatur. Facies angulus minùs acutus est quàm in Ethiopico et minùs obtusus quàm Mongolio. Crinis densus, perlongus, et niger est. In medio loco, inter varietates Ethiopicas et Mongolicas, hæc varietas sita est. Eorum vultus ferox est, et indole perfidâ sunt. Laboris patientes illi sunt, audaces, in bello feroces, et ultionis avidi. Eorum imperium, aristocratica est. Polygamiam permittunt et ad intemperantiam valdè addicti sunt. Regiones calidas habitant, et eorum corpora pinguent. Horum populorum nonulli, anthropophagi sunt.

De Varietate Americâna.

At varietate Mongolia, orini genus hoc videtur. Horum facies, complexio, consuetudines, annales publica a populis Asiæ Orientalis, originem primitivam

comprobant. America septentrionalis gentes, cutem similem, China et Tartaria populis, pingunt. America, populi
et presertim America Centralis, frontem latam et compressam, (ex magnâ parte a barte) habent, oculi depressi et nigri, crines recti et prolongi, nares latæ et compressæ, malarum ossa lata et prominentia, conspectus ferox et immanis; colonis, rubidi cutis est, et raripila; polygamiam permittunt et cutem pingunt. In regionibus perfrigidis feroces et bellicosi sunt, et cum tranquilitate immotâ, cruciatos crudeles ferunt. Omnes enim fideles sunt, sed hostibus feroces et immanes. Idolatricæ addicti sunt, et solem stellasque colunt. America meridionalis gentes de naturâ et magnitudine, valdè insignes, sunt.

De Varietate Nigra seu Æthiopicâ et ejus Varietatibus.

Hujus varietatis signa, sunt; facies angulus minor est, quam in Europeo; frons depressa ~~depressa~~, recedens et rotunda est, temporum ossa compressa, crinis lanatus, labra crassa, nasus magnus et simus, oculi pleni, mentum breve, dentes salientes. In corporis structura, et diversarum partium connexione, a varietate Caucasia, valdè discrepat Æthiopica. In intellectu, Caucasiæ valdè inferior Æthiopica varietas est. Voluptatibus corporis addicta est,

majis quam animi. In omnibus regionibus, varietas Ethiopica, sub Caucasiæ imperio, subjecta est. Cutis color niger, qui varietatem Ethiopicam signat, in rete mucosâ, et nonullis aliis texturis corporis, situs est. Calvariæ dimensio in Caucasio valdè ~~inferior~~ minor est, quam Ethiopico, dum malarum ossa, majis prominentia sunt priori, quam posteriori. Caucasii calvaria, quatuor uncias plures, continet, quam Ethiopici. Hujus generis tres præcipuas varietates enumeramus. Prima varietas, quæ Ethiopica seu Nigra appellata est, gentes Sierræ Leonæ, Oræ Aureæ, Nigritiæ, Angolæ, et denique omnis Occidentalis litoris Africæ, insulasque, includit. Hæc varietas, odore noxio, qui ab corpore exhalat, intellectûs inopiâ, et signis variis physicis, cognita est. Hujus generis populi, cantû et saltatu gaudent, et ad venerem valdè addicti sunt. Plerumque polygamiam Ethiopici permittunt. Idolatri sunt, staturas et animalia colunt, et circumcisionem perficiunt, inter seipsos bellum gerunt, et ad Europeos, captivos, in bello servos, venditant. Eorum forma imperii, monarchia est. In moribus et consuetudinibus eorum, valdè rudes et inculti sunt. Indole mites et innocui sunt, sed quûm irati, feroces immanesque. Cutis color niger, illos majis sensitivos frigoris, sed majis patientes caloris, efficit. Pars secunda Cafrariæ terram includit, quæ oram orientalem Africæ occupat. Hæc terra vasta, Caffrariam, littus universum Languebaris, et Africæ

Orientalis omnes gentes, includit. In populis Cafrariæ, caput valdè contractum et arctum est, facies minùs prominens et melius formata, et cutis, odorem minùs foetidum, quàm in Ethiopicis, exhalat. Formosi, robusti, et agiles Caffrarii sunt. Ab ortû et educatione pastores sunt, in eorum moribus mites, nimis bellicosi, sed majùs fortes et intrepidi, quam alii Ethiopici. In respublicis valdis et potentibus, seipsos conveniunt. Servitudinis impatiens Caffrarius est. Ebore, pulvere aureo, pecoribusque, Caffrarii mercantur. Lac, caseumque commedunt, et semper armati sunt. Minùs ignari sunt, quam Ethiopici, sed nihilò minùs, idolotriæ valdè addicti sunt. Generis humani maximè degenerata et depravata varietas, in Africæ extremitate meridionale locata est et Hotentota nominatur, et quæ in intellectû atque ejus naturâ physicâ, simiis similare apparet. In eis, faciei angulus ad grados sexginta et quinque tantùm porrigit. Cutis nigri coloris est, nasus compressus et valdè magnus, labia majora quam in Ethiopicis, malarum ossa valdè prominentia, frons depressa et arcta. Foeminarum mammæ valdè prælargæ et pendulæ sunt, et ad uncias multas Vaginæ nymphæ elongatæ sunt. Piscibus et arborum radicibus subsistunt, in moribus eorum squalidi, et indole mite et innocuâ. Valdè lenti et otiosi gulosique sunt, et ad voluptates omnes aliàs obscænas addicti. Dei existantiæ et naturæ ignari sunt.

In voce et vocis organis simiis valdè similes sunt.

De causis Varietatum humani generis.

Ab actoribus veteribus, genus humanum in varietates duas præcipuas dividitur, nempè Caucasiam, Ethiopicam. Regionibus temperatis, frigidisque prima species propria est, secunda fervidis terris, et ab eis quasi earum parentibus, humani generis omnes aliæ varietates ortæ fuerunt. In regionis torridi incolis, cutis nigri coloris est, causa cujus putatur a calore solis oriri. A septentrionale, ad partem meridionalem Europæ, in cute varios grados coloris cernemus, in Brittaniæ, Galliæ, Hispaniæ populis. Solis calor non semper mutat cutis colorem. In regionibus maximè algidis (sicuti Laplandæ et nationum aliorum inter populos) coloris fusci cutem occulosque videmus. Caucasiis et Georgiis formosis, nigros Mongolios propinquos cernemus. Tunc, varietates varias et diversas humani generis, solis clor et clima non commutant. Formam et speciem cutis, clima mutat, sed generis humani notas organicas non potest delere. Generis humani varietatum causa vera non cognita est.

De Generis Humani Formis Adscitis.

Ab Hippocrate, et aliis auctoribus veteribus scriptum est, ut in Maris Nigræ vicinitate inhabiti eranios eorum infantum, (a faciis cingentibus capita), comprimunt; adeo calvariæ elongatæ erant, et ab hac causâ, Macrocaphales appellantur. In gentibus variis aliis, exempla multa reperta sunt, (sicuti inter Caribæos, Peruvios et alios). In variis aliis partibus corporis, hæc ars exercita ~~exercita~~ est, ita nasûs compressio Ab Ethiopicis, et mammarum, auriumque extensio apud Americæ aborigines. Ab climâ, consuetudine, et causis aliis, genus humanum mutatur. Color Europei infantis caligat, quum ab Ethiopicæ foemineæ lacte, nutritur. A cibo lauto et luxurioso, cutis color caligat, dum a diætâ et cibo tenue albescit. Humani corporis formam et naturam mutare, morbus epidemicus dicitur, sicuti morbus Elephantiasis in regionibus fervidis et humidis, et Plica Polonica inter populos Sarmatiæ.

Finis.

March 1833

A

Dissertation

on

Dislocations of the Thumb.

Submitted to the examination of the

Provost, Trustees, and Medical

Faculty

of

the

University of Maryland.

for the Degree of Doctor

of

Medicine

by

William Manning

of

Baltimore

Md.

March 1st. 1833.

7.

To

John Bucklor M.D.

The deepest and most sincere feelings of respect for his character and talents, and heartfelt gratitude for the unqualified kindness which he manifested toward me while a Student in his office, have prompted me to dedicate to him this humble Essay - And however fruitless the attempt may prove to render it worthy of a connexion with his name, yet it may prove acceptable as a tribute of respect from his

Sincere friend

William Manning -

Baltimore Feby 28th. 1833 -

On Dislocations of the Thumb.

Although at first thought this subject may appear to be of trifling importance, yet when we reflect for a moment upon the various and important functions, which the Thumb is called upon to perform, we are at once aware how strong a claims it has upon our serious attention - It is a subject, which has engaged the attention of the most eminent surgeons of present and past times, called into action their learning & skill, and oftimes even thwarted all the devices which their most profound ingenuity could suggest, and still remains, fraught as it were, with unconquerable difficulties, that will in all probability prove a source of disappointment to the most ably directed efforts of surgeons for years to come -

The Thumb is one of the most useful organs of the human frame - without its aid the functions of the hand would be but awkwardly performed, and the wants of civilized man could with difficulty be supplied - Imagine the consternation and distress of the inveterate snuff-taker, suddenly deprived of this invaluable servant, by whose assistance he has hitherto been enabled to convey the subtle titilating dust to the anxious nose, and gratify that want, which long indulgence has constituted an ingredient of happiness - The onward march of Science, and the perfection of the Arts, are both dependent in a great degree

upon this little member - As an index of the feelings and passions the face, with its almost infinite power of expression, has been called "divine" - Look but at the mechanism of the Thumb, and that too must be called "divine" - its almost unlimited power of action and movement, its wonderful construction, and its variety of function, characterize it as the invention of Omniscience alone - Without it the sword would drop from the hand of the soldier, and his art of defence would avail him naught - the lover might "sigh like a furnace", but the "woful ballad made to his mistress' eyebrow" would exist but in the day-dreams of his imagination - But to descend to professional matters - what would the Surgeon be without his Thumb? a mere theoretical Spectator - his fertile mind might suggest, but his thumbless hand could not carry into effect - as a lecturer he could not illustrate to the Student his theory and description by actual demonstration - and in Practice, where the thousand uses of the thumb render it indispensibly necessary, he would be like the dumb, full of thought, without the power of expression -

The Thumb, from its peculiar construction and situation, is perhaps more liable to injury & dislocation than any other member - when this occurs, it requires our immediate attention, for delay is dangerous; at least the longer we delay, the more difficult will be the reduction -

The most important circumstances to be

taken into consideration in the luxations of the thumb, as well as in those of all other articulations, are - the length of time the displacement has continued - the direction in which the bone is displaced, and the extent of the dislocation, which renders it either simple or compound in its character. Dislocations, according to their extent, are termed either complete or incomplete - The Ginglymoid joints, or those which admit of but two motions, are but little subject to complete dislocations, while the dislocations of the orbicular joints, or such as admit of motion in all directions, are almost always complete - The former, such as the elbow, foot and knee, may be dislocated in a forward, backward or lateral direction, while the latter, such as the hip or shoulder, may be dislocated at any point - The length of time a dislocation has existed makes a material difference as to the probability of successful reduction - Recent dislocations are generally easy of reduction in comparison with those of long standing, for in the latter cases it is extremely difficult, and sometimes absolutely impossible, to effect the reduction, the bone and soft part having acquired a fixed position, and the muscles adapted themselves in length, either by contraction or extension, to the altered situation of the bone, and become rigid - The capsular ligament may also have become closed, so as to render it necessary to resort to the knife before a reduction can be effected - And another and serious obstacle is presented when the lux-

ated bone may have formed adhesions with the neighboring parts -

Dislocations are characterized as simple or compound - a simple dislocation is unattended with any lesion of external surface, and therefore for the most part susceptible of reduction without any great difficulty - but a compound dislocation on the contrary is attended with an external wound, and is oftentimes of so serious a nature as to render amputation absolutely necessary to the preservation of life -

There are various other circumstances connected with dislocations, the knowledge and consideration of which is of great importance to the surgeon in his treatment of cases - such, for example, as are dependent upon the natural construction of the parts - there being in many instances an incomplete development of the parts, a looseness and paucity of ligaments, admitting of great latitude of movement, so as to render the joints liable to dislocation from natural weakness of construction - and again, such as are the result of disease - a paralysis of some or of all the muscles surrounding the joint, and diseases, which destroy ~~the~~ or impair the vigor of the surrounding parts, also render the joints liable to dislocation - Some unfortunate persons cannot yawn or laugh without producing dislocation of the lower jaw, owing to a natural looseness of the ligament, entering into the construction of the parts -

After these general remarks on dislocations,

we must turn our attention more particularly to the subject under consideration.

The Thumb consists of three bones - the metacarpal bone and the two phalanges - The metacarpal bone is articulated with the Os Trapezium by means of a double pulley - that of the Trapezium directing the thumb towards the palm of the hand, and that of the metacarpal bone directing it laterally - The metacarpal bone is connected with the Trapezium by a capsular ligament, and a very strong ligament joins the first phalanx to the palmar part of the Trapezium at its lower extremity - The metacarpal bone terminates in a rounded projecting articulatory surface upon which the hollow of the lower extremity of the first phalanx rests, the joint formed by the two being surrounded by a capsular ligament and strengthened by two strong lateral ligaments.

There are eight muscles inserted into the thumb. Two into the metacarpal bone, the flexor and extensor Metacarpi pollicis - Two into the first phalanx the flexor brevis pollicis and the extensor primi internodii = the abductor and adductor pollicis are also inserted into this bone through the medium of the sesamoid bone = and lastly two into the second phalanx, the extensor secundi internodii, and the flexor longus pollicis - The strength of these numerous muscles renders the reduction of dislocations of the thumb extremely difficult -

The first dislocation of the thumb of which we shall treat is that of the metacarpal bone from the Trapezium, which may occur backward, forward,

inward or outward, owing to the peculiar structure of the joint, which admits of movement in various directions - Backward and inward dislocations are of most frequent occurrence, because the relative position of the thumb renders it most liable to forces that would dislocate it in these directions - a dislocation backward is effected by violence received upon the thumb while flexed slightly toward the palm of the hand - as by a fall upon the radial side of the hand, by which the force is received directly upon the thumb. The tumor formed by the displaced head of the bone, the flexion of the thumb upon the metacarpal bone, the impossibility of extending the thumb, and the pain which accompanies every such attempt, at once betray the nature of the accident - Some distinguished writers on Surgery have declared, that the swelling, which supervenes the receipt of such an injury, sometimes renders its nature and extent extremely uncertain; but we must be excused for saying, that we cannot conceive it possible, that any one, possessed of common powers of perception, can after proper examination be deceived in those particulars -

This dislocation is reduced in the following manner - While extension and counter-extension are being made, which may be done by assistants, the Surgeon must place his thumbs upon the displaced head of the bone, and when sufficient extension shall have been made, the pressure of the thumbs of the Surgeon will, under ordinary

circumstances, readily return the head of the bone to its proper situation - after this has been accomplished, should there be any reason to fear a recurrence of the dislocation, resort may be had to the usual mode of treating Fractures - that is, to the application of a splint properly secured with tape, and in case of swelling and inflammation, to the usual local applications of evaporating lotions -

For the reduction of a forward dislocation of this bone we are to observe the same rules, that govern us in the reduction of a backward dislocation, after taking into consideration the direction in which the bone has been displaced - But there is one thing to be borne in mind upon the occurrence of this kind of dislocation, which is, that the head of the bone in this direction is cuniform or wedge-shaped, and when forced from between the two lateral ligaments is apt to cause great irritation to these ligaments, and excite them to spasmodic contraction, which will sometimes thwart the best directed efforts at reduction - Under such circumstances the division of one of the lateral ligaments has been recommended in order to liberate the bone & thus allow the reduction to be accomplished.

The inward and outward dislocations of this bone are attended with the simultaneous rupture of the capsular, and one, or the other, of the lateral ligaments - Their treatment, after reduction shall have been effected, is the

same with that of Fractures -

In compound luxations of the metacarpal bone a cure is for the most part readily effected by returning it to its natural situation, bringing together the integuments and confining them over the joint by suture, and applying a poultice - But where the extent of the injury has been very considerable, the metacarpal bone so much detached from the Trapezium, and the muscles so extensively lacerated, that it becomes necessary to resort to amputation, it is then best to saw off the articular surface of the Trapezium; for it has been found by experience, that amputation directly in the joint is dangerous, from its tendency to produce a violent degree of inflammation -

The first Phalanx of the thumb is also liable to simple and compound dislocations, which, like those of the metacarpal bone, may happen in various directions - and also like that bone it is most liable to backward dislocation by force applied to the extremity of the thumb - When this kind of dislocation occurs, it is attended with rupture of the capsular ligament and a stretching of the tendons of the extensor muscles, together with a change in the direction of the lateral ligaments without any material injury thereto -

This dislocation may be recognized by the projection of the bone backward upon the Metacarpal bone, thereby forming nearly a right angle with that bone, and by the thumb's being considerably flexed toward the palm of the hand and almost immovably fixed in that position in consequence of the contraction of the flexor

longus pollicis -

The reduction of this dislocation, as of all other dislocations of this joint, is much more difficult to accomplish than the dislocations of the metacarpal bone from off the Trapezium, in consequence of the shortness of the hold, which is to be obtained for the purpose of making extension - But this difficulty may be in a great measure overcome by passing a tape, or what is called by Samuel Cooper a clove-hitch notch, around the extremity of this bone near its connection with the second phalanx after having enclosed the thumb at this joint with a piece of soft & moistened leather; thus the means of extension being afforded, a reduction may be effected by counter-extension and the observance of the general rules herein before laid down as our guide in the reduction of dislocations of the metacarpal bone from off the Trapezium - The rigidity of the muscles of tendines presents a formidable impediment to the reduction not only of this bone, but of all other bones - this difficulty may generally be overcome by steeping the hand in warm water for a considerable time, which will produce great relaxation of the parts, and thus facilitate our operations - but should not success attend the use of these means, recourse must be had to general depletion by blood-letting -

As we have before observed, the Thumb is liable to dislocations in various directions; but it is unnecessary for us to describe them minutely or to

prescribe particularly the method of reducing these dislocations; suffice it to say that our operations for the reduction of these various dislocations may be governed by the same rules and regulations as are laid down for our government in the cases herein before described -

In compound dislocations of this bone, should there be much difficulty in its reduction, it is recommended by Sir Ashley Cooper, that we should saw off the extremity of the bone, rather than to injure the parts by long continued extension, and then heal the parts by adhesion - Desault has recommended the introduction of the spatula between the two heads of the bones, upon the metacarpal bone, to be used as a kind of lever by which to force up the first phalanx to a proper extent and then slide it directly into its proper situation - but this is a modus operandi, which we think should not be resorted to even in extreme cases, because it is a rough and hazardous mode, and one which we humbly consider as well calculated to inflict serious injury upon the connecting surfaces of the joint -

The last dislocations of which we shall treat, are those of the second phalanx of the thumb; which is liable to be dislocated in various directions, like the two other bones of the thumb - These too may be either simple or compound - Fortunately however, this bone is seldom dislocated in any direction; but when it does occur, a dislocation of this bone is the

most difficult of reduction of all the bones of the thumb, from the limited extent which we are allowed, upon which to apply our extending force. Should we be called upon to exercise our talent in the reduction of a dislocation of this bone, we must resort to the ordinary means, which have been herein before described as necessary to be adopted for the reduction of the dislocations of the other bones of the thumb. Should these be insufficient to effect our object, we must rely upon our own ingenuity for the devising of some plan by which to accomplish the desired end. If however it should be our misfortune, under such circumstances not to possess a talent for the contrivance or invention of adequate means to effect a reduction, it is much more prudent to resort to amputation; for in all cases it is best to save our credit by never attempting to perform a surgical operation, which lays a direct tax upon our ingenuity that we cannot pay - want of success in small matters is calculated, not only to bring disgrace on ourselves, but to give rise to unmerited reflection upon the profession at large - and a man devoid of mechanical talent is as unfit to undertake the performance of the duties of a Surgeon, as the ignorant and infatuated Steam and red-pepper curer of all diseases is to discharge the responsible duties of a Physician -

Since the foregoing remarks upon the Dislocations of the Thumb were written, we have been highly gratified and instructed by the Lectures

tures of our ingenious Professor of Surgery, to whose remarks we have listened with undiminished interest - He seems to neglect no opportunity, that may present itself, for exerting his mechanical powers toward the improvement of the apparatus And instruments, which are now in use in the Surgical department; and he has succeeded, by means of his improvements thereof, in rendering the inventions of the most distinguished Surgeons much more simple and comprehensible - With prolonged life he may confidently look forward to pre-eminence in his profession; and we may expect without fear of disappointment, that the future inventions of his highly gifted mind will enable the practical Surgeon more effectually to relieve the sufferings of the unfortunate -

The remarks of Professor Smith, to which we more particularly allude, were those which had immediate reference to our subject - He says, that after we shall have made the usual preliminary arrangements, we must proceed to make extension in the direction, in which we find the bone pointing, continue our extension until we shall have brought the edge of the head of the displaced bone past the nearest edge of the ~~head~~ of the bone from which it is displaced, Then, by gentle pressure with the thumb upon the head of the displaced bone, at the same time raising the displaced bone in the direction of its natural position, return it to its proper situation - This manner of procedure, he says, has never failed with him in effecting without

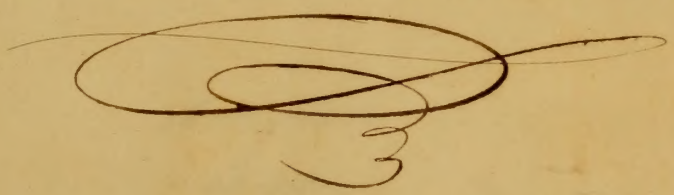
any great difficulty the reduction of all recent dislocations - As yet we have had no opportunity for testing the practical utility of Professor Smith's suggestions and manner of operating, yet to us they appear founded in reason, and we should in all cases adopt and act upon them, confident of a successful result -

Dissertatio Inauguralis

De Ictero.

Auctore.

H. A. Inloes. A. B.



De Ictero.

Dissertatio

Inauguralis Medica,

quam

Præfecti, et Almæ Medicinæ Facultatis,

judicio,

in

Universitate Terræ Mariæ,

ut

Summi in Medicinâ et Chirurgiâ

Honores ritè sibi concedantur,

Subjecit

Auctor,

Henricus A. Julius. A. B.

Baltimorensis.

Anno Domini MDCCCXXXIII.

V

Spectatissimo,
Doctissimo, optimoque viro,
Alexandro Clendinio M.D.
Henricus A. Inloes. A.B.
S.P.D—.

Vir clarissime,

Magno quo te honore prosequor, atque in primis, animi grati ac memoris elatis sensibus, incitatus, hanc ce meam dissertationem pro Doctoratûs laurêâ, in Almâ Terræ Mariæ Medicinæ Facultate, tibi jam pridem dicatam esse volui, atque, etiam nunc, dicatam facio. Cuinam Enimverò mortalium, hoc honoris pignus potiori jure præstare possem, quam tibi, cujus curæ, solicitudini, prospensæ in me voluntati, sapientibusque monitis et consiliis, quodam modo, debeo quidquid fructûs et utilitatis ex doctissimis celeberrimorum Universitatis nostræ professorum lectionibus percepi. Plura, vir optime, de te, tuisque egregiis dotibus dicere, juvaret animum tibi plurimis beneficiis devinctum; at virò, quid laudibus tuis addi potest à me, typone adhuc et alumno? Quid præterea adderem, quod non omnibus, quos in tuî admirationem sæpiùs adduxisti, atque magis ac magis, in dies, adducis, perspicuum sit. Silentio igitur præterniptis, magnis ac præclaris, quibus polles, virtutibus, solum adjiciam: meritorum in me tuorum memoriam, nullâ unquam oblivione delendam fore.

Ut in more positum, atque illustris hujus Academiæ legibus sancitum, mihi laurcam Doctoratûs ab almâ Medicinæ Facultate postulanti necesse fuit, brevem aliquam dissertationem scripto tradere, quæ amplissimi Præfecti judicio subjiceretur. Suæ verò sibi tenuitatis conscius animus opus refugisset, nisi partim recreâsset viri ornatissimi benignitas et indulgentia, tandemque compulisset ardua necessitas. Dum animum intenderem ad munus mihi impositum, cum omnibus difficultatibus confligere coactus sum, quæ sese parùm in arte scribendi versato offerunt. Parum temporis, et dii suppetit ad vias novas et inexploratas in scientiæ spatiis fundandas Medicinæ Candidato; Totus in principiis certis, ac probè probatis versatus ille, et observandi occasio, quâ fruitur, non illum sinit novas cudere hypotheses, aut novas vulgare doctrinas. In omnibus enim disciplinis, sed maximè in nobili Medicinæ scientiâ, systemata, quamvis illicebris ingenii acris, ambitiosique, et famæ cupidi, exornata, nisi in certis fundamentis factorum, experimentorumque nitantur, inutilia, imò verò perniciosa esse premo non videt. Quæ cùm ita sint, "Icterum" elegi, atque ipsius de naturâ, symptomatibus, causis, et tractatione medelâque, hâcce meâ thesi, quam almæ facultatis judicio haud absque metu, etsi cum fiduciâ, subjicere cogor, dicere satagam. In spem enimverò magnam venio fore, ut-

eâ animi liberalitate ac benignitate, quâ viri scientiâ ac sapientiâ illustres ab ignaro vulgo discernuntur, eam trutinæ mandent nobilis Terræ Mariæ Universitatis Professores ornatissimi.

Omnibus scriptoribus præcepit Horatius:

"Sumite materiam vestris, qui scribitis, æquam
viribus; et versate diù quid ferre recusent,
Quid valeant humeri",

et hoc præceptum me terret, ne scilicet illius negligendi reus esse videar, quippè qui materiam densâ caligine mersam, multisque difficultatibus obsitam, selegerim. Vix fateri necesse est, me non in arenam descendisse animo lucem immittendi rebus obscuris, parùmque cognotis; hæc namque efficere non valuit olim ingenium, investigatio, aut sapientia, Medicorum, professorumque doctissimorum. Majora igitur ~~[illegible]~~ polliceri me summam in Medicinæ ~~[illegible]~~ tironem arrogantiam arguerit; ~~[illegible]~~. Non "fumum ex fulgore dare" cupio. Quæstiones multæ ac difficillimæ, tùm Physiologicæ cùm Pathologicæ, Icteri tractatione continentur, et tempus solum docebit, an scientiarum ~~[illegible]~~ progressu unquàm solventur. Hoc unum igitur mihi in animo est, de obscuris et adhùc ambiguis pauca in medium afferre; deindè verò breviter quidem, sed tamen paulò fusiùs ~~[illegible]~~, de iis quæ certiora sunt, disserere.

Hæc forsan opinio, cujus veritas nunc

nihil clarior in dies appareat, a multis desideretur, singulisque et factis contraria habebitur. Hoc quidem breve scio, plures esse, qui amore uniformitatis tam in theoriâ quam in praxi ducti, nobis persuadere velint, totam Icteri naturam ideâ simplici bilis obstructa, et absorpta continere; et omnes investigationes ulteriores nihil aliud parere, quam temporis et laboris, magnâ cum animi perturbatione, aut certè contentione, jacturam. At tutumne est hoc principia sequi? Possuntne tales notiones morbi generales, crudeque, ~~[illegible]~~ veritatem inquirenti satisfacere? Minimè. Putamus nobis opus esse omni luce, quam Anatomia, Physiologia, et Chymia præbere possunt, ut in viâ incertâ tutò dirigamur: et nimium felices erimus, si dum huic morbo mederi conamur, causas frequenter non invenianus ignorantiam nostram, artisque impotentiam, accusandi. Ad hoc necessarium erit, pauca in primis dicere de iis partibus Physiologiæ ad Icterum pertinentibus quæ explicationem requirunt.

Salis Icteri sedes jamdiu est, et causa ejus proxima impeditus bilis fluxus in intestina esse videtur. Sed possumusne verum bilis usum pari cum confidentiâ designare? Certè sumus hunc morbum sedem habere in jecore; sed quid sit hujus visceris usus finalis, nemo physiologicorum nobis dicere potuit. Quum autem ejus magnitudinem in omnibus animalibus illud possidentibus spectamus, simulque

videamus quàm universale sit; animalibusque rubro sanguine præditis tàm esse commune, quàm ipsum cor; et inferioribus in animalibus sæpè inveniri, idemque molis ingentis, atque demùm, cùm probè sciamus, ubi viscus jecori structurâ et specie simile deest, tunc viscum vicarium repereri; ad hanc conclusionem cogimur, animalium in constitutione multum valere, etsi ipsius officium incertum esse videatur.

Fourcroy hypothesis, jecoris officium esse materiam excrementitiam a sanguine secernere, ne plura dicam, incertissima est. Non potest in suum subsidium adducere experientiæ testimonium, quod in quæstionibus Physiologicis tantum valet. Talem effectum ostendere non possumus, nec aliquid certi de hâc re excrementitiâ constat. Dubium præterea est, an jecur aliam quamlibet sanguinis mutationem efficiat. Bilem secernere ejus officium proximum, et obvium est: si ultrà progrediamur, nihil præter conjecturas offerre possumus.

In plerisque animalibus, bilis in receptaculo in hunc usum destinato colligitur. Vesicula fellis vocatur; formâ pyro similis est, et faciei Jecoris concavæ hæret. Hic quoque scientia nostra æquè indefinita est. An vesicula fellis merum sit receptaculum bilis post ejus secretionem, an verò jecur adjuvet ad bilem formandam, eamque præparet ad munus suum in actu digestionis perficiendum, adhuc quæritur. Dum

bilis ductu hepatico fluit, mitis est ac dubia; sed quam-
do in fellis vesiculâ invenitur, pungens et amara fit.
Hinc concludere liceret, principium amarum a vesiculâ
fellis secerni. Verum tamen in infantibus, bilis in eâ contenta
jam est dulcis quàm bilis in ductu hepatico; et in insectis
bilis amaritiei intensissimæ secernitur, sine fellis vesiculâ
aut jecore. Quis nobis horum discriminum causam ostendat?
et quare principium amarum adultis, magis quam infan-
tibus, necessarium sit? Vesicula fellis in animalibus carnivo-
ris reperitur, dum deest in iis, quæ herbis pascuntur. Hinc
distinctionem percipimus, sed causa ejus latet, nec eam
possumus in usum vertere. Imò in quibusdam hominibus
defuit, exemplum cujus præclarum refert Dr. Chisholme in
Tom. VI Act. Med; et narrat E. Home historiam pueri, qui
acri appetitu edebat, cibos bene degerebat, et diurnas
habebat evacuationes; sed cujus post mortem, nec fellis
vesicula, nec ductus ullus jecur inter et Duodenum
invenire potuit.

Quod verò ad bilem attinet, opinio proxè
universalis est, eam præcipuè inservire ad vasa lac-
tea stimulanda, intestinorumque motum peristalti-
cum sustinendum. Scimus autem lactea in cibo
officium perficere, et intestina sæpissimè agere sicut
illis in circumstantiis, quibus non deficit bilis; et
nonnumquam Diarrhœam ei supervenire. In Lithotomiâ

motus peristalticus est celerrimus. Ex his factis ad versis conclusit Dr. Fordyce, digestioni bilem esse inutilem et exempla suprà narrata, si fidem adhibeamus Dr. Chisholm et E. Home, saltem probant hanc functionem perfici posse absque ejus interventu. Alias difficultates enumerare possemus, v.g. quâ vi bilis, ubi sanum est corpus et valens, per hepatis ductus impellatur. Quomodo in circulationem feratur, an per Ductum Thoracicum, an per venas et lymphaticas hepaticas, hoc est, an regurgitatione, an absorptione? Hæc autem satis ostendunt, multa in Physiologiâ hâc de re adhuc discenda esse.

Qualiscunque verò Hepatis sit usus, aut bilis officium, satis constat proximam Icteri causam esse obstructionem aliquam bilis transitui in intestina. Nonnulli quidem censêre, bilem post ejus in intestina receptionem vasis lacteis absorberi posse, hocque modo omnia Icteri indicia, v.g. cutem flavidam &c., inducere. Si autem res ita se haberet, impossibile est evacuationes flavo colore non tinctas esse; dum e contrà albæ sunt; et hoc est indicium hujus morbi propè pathognomonicum. Certum igitur habemus, ad Icterum constituendum, bilis transitus naturalis in intestina obstructionem necessariam esse. Hoc potest multis ex causis oriri, et varias morbi producere

species, quarum utraque symptomata sibi propria habet.

Si recurramus ad systemata Nosologica, ut causas Icteri inveniamus, certè spe fallemur; auctores enim solertiam tantùm exercuisse videntur, modos excogitando, quibus transitus bilis impediri possit, cùm nos docere debuissent, atque ipsorum experientiâ confirmâsse, quænam sint causæ ordinariæ illius obstructionis, et in praxi, maximi momenti. Ordinis igitur gratiâ, inter eos casus, qui functioni imperfectæ ductuum biliosorum junguntur, secretione bilis plùs minùsve vitiatâ, distinguamus; et eos, quibus mechanicum fit bilis impedimentum, dùm bilis sanæ qualitatis secernitur. Divisioni priori pertinet ductuum Vesiculæ fellis spasmus, eorum tunicarum inflammatio, et lentor nimius bilis cum ductuum debilitatione; posteriori verò, concretiones hepaticæ, viscerum amplificatio vicinorum, et accumulationes in Duodeno.

Præterea, Icterus, nonnunquam Graviditatis, morborumque multorum symptoma, occurrit, ut Colicæ, et febrium variarum, sed præcipuè Typhi Icterodis, seu Febris Flavæ. Illud etiam notatu dignum esse videtur, atque optimo testimonio comprobatum, connexionem sæpè habere morbidâ cum conditione cerebri, et nervorum. Hæc opinio Medicinæ Scientiam antiquitate

propè æquat, multaque facta diurna eam illustrare videntur. Sic Icterus frequenter observatur in motu animi conturbato, terrore violenti et repentino, zelotypiâ, et maximè in dolore intenso domestico: morbo in Encephalo nonnunquam connectitur, et mortem perhibetur aliquibus afferre Apoplexiæ superventu: injurias capitis consequitur, et sæpissimè adest regionum in Tropicarum febribus, quibus Cerebrum et Nervi tantopere læduntur. Sympathia mutua cerebrum inter, et partes omnes corporis, optimam fortassè ~~[illegible]~~ rationem præbet, quâ hæc phenomena elucidari possunt. Sed mihi non est animus particulatim de his affectionibus secundariis loqui. Id enim dissertationem hanc longiùs produceret, plusque temporis requireret, quàm alia negotia relinquunt. Necesse autem fuit de iis mentionem facere, eò quod facta magni ponderis sint in generali hujus morbi pathologiâ. Posthàc igitur de speciebus Icteri idiopathicis præcipuè dicam. Et,

5°. De Ictero Vesiculæ fellis ductuum spasmis exoriente — Quæstio multùm vexata est, an tali spasmi esse unquam possint obstructio ita constans, ut Icterum producere valeant; et, ut plerumque accidit utraque opinio ~~propriam~~ pertinaciter propugnata est. Hæc sunt facta, quibus opinio affirmativa stabilitur, Icterum, scilicet, Hysteriam, aliosque morbos spasmodicos consequi, et sæpissimè brevi tantùm

curare; et examina post mortem habita, cùm morbus diù extiterit, neque concretiones, nec alium bilis transitui impedimentum, detexisse. Primum fortassè solum est factum magni ponderis; et non prætermittendum est, Hysteriæ et Icteri conjunctionem ita raram esse, ut magis fortuita, quàm principium magnum pathologicum constituens, haberi debeat.

Plerumque invenitur in hominibus, qui irâ facilè moventur, hæc Icteri species; aut in iis, quorum jecur, longâ in regionibus tropicis commoratione, vel potuum vinosorum aut cibi nimiùm conditi usu immodico, aliâ-ve causâ, in conditione irritabilitatis vetustæ est. Viris communior est quàm fœminis; et facilè regeneratur aut primitùs excitatur cibo spiritu pleno, acri, aut ad digerendum difficili, violenti animi perturbatione, frigore pedibus astrictis, aquam gelidam dùm corpus calet bibendo, et Arthritis atonicæ metastasi a pedum aut manuum articulis, ad Ventriculum, aliumve partem canalis Alimentarii. Morbus sensatione distensionis in Ventriculo incipit, et languore, nauseâque magnâ: his succedit dolor magnus ad regionem Epigastricam, unà cum vomendi propensione constanti, omnimodâque impotentiâ vel cibum vel medicamenta hausta in Ventriculo retinendi. Dolor brevi incipit e cordis scrobiculo ascendere, et ad humerum

sinistrum tendere, aut circa lumbos extendi, eosque tan
quam cingulo stringere. Adsunt etiam, tùm distensio,
tùm teneritas in regione Epigastricâ pressurâ aucta.
Inter hunc motum corporis violentem, si pulsus tentetur
nulla vix circulationis perturbatio sentietur.

Alvus justo strictior, pertinaciter sæpè obsti
ata, pharmacis laxantibus vix solvi potest. Sedes at
bidæ sunt, aut argillæ similes; sed urina colore croce
seriùs occiùsve, secundum aliorum symptomatum vio
lentiam, tingitur; paulatimque tota corporis superfic
es externa, et præcipuè tunica tenuis oculi sclerotica iden
vestimentum induunt. Si morbus longè perduret, omnes
secretiones, cor, pericardium, cerebri substantia ejusque
membrana, cartilagines, et ossa, denique partes corpori
omnes, tùm solidissimæ cùm permeabilissimæ, eodem
colore sunt obtecta. Affirmavit certè Dr. Heberden, n
nunquam lac nutricis ictericæ, aut bilis sapore, aut
colore imbutum esse; et hoc confirmavit Dr. Gregory. Ha
autem opinio latiùs æquo patere videtur, et experien
tiâ repellitur multorum aliorum Physiologicorum, sed
maximè Rüdlin, qui dicit omnes aliquandò humores
decoloratos esse. Hoc quidem explicationem solam qua
afferre possumus satisfactoriam præbet, modi quo produ
citur sapor amarus et biliosus, qui tam frequenter
adest; ut omnia, quæ edit æger, ejusdem qualitatis sint,

quamvis Ductus Communis Choledicus in toto obstructus sit, et intestina sine bile, fæcesque albidæ. Sanguis enim bile sic impletur, ut saliva, oris et faucium æsophagique secretiones, probabilissimèque succus Gastricus et Pancreaticus, materiâ eâdem adventitiâ onerata sint. Hæc opinio de succis Ventriculi et Pancreatis hoc facto roboratur, nutrimentum scilicet corporis, etiam cum morbus longus, pertinaxque fuerit, tàm perfectè effici, quàm in valetudine. Sed hæc forsan aliàs resumam.

Nonnunquam oculorum humores eamdem morbidam coloris mutationem patiuntur, quâ communicare solent luteam tincturam rerum imaginibus in retinâ formatis; ut corpora circumdantia speciem eandem induant, ac si in speculo flavo viderentur. Scriptor primus qui hoc phænomenon observavit Lucretius est; et illud, sicut factum benè cognitum, ipse notat, ad aliam rem illustrandam.

"Lurida præterea fiunt, quæcumque tuentur
Arquatei; quia luroris de corpore eorum
Semina multa fluunt, simulacris obvia rerum;
Multaque sunt in oculis eorum denique mixta,
Quæ contage suis paloribus omnia pingunt."

Sed non negandum est, talem mutationem in dubium vocare Drem Heberden; dicit enim, eam denegatam fuisse ab omnibus Ictericis, quos ipse curaverat; si duas fæminas excipias, quarum testimonio multum fidei non

adhibere videtur. Ejusdem est opinionis Professor Franke.
Res autem extra dubium, saltem in mente meâ, hoc facto
ponitur; nimirùm, mutationem talem ipsimet Dr. Good de
revera accidisse; et nobis planè dicit, primam suspicionem
in quam incidere coepit lectori advenientis, ex colore luteo
ortam esse, quo objecta omnia circa ipsum posita vestiri
videbantur. Non diutiùs igitur sub judice lis est. In
casibus huic similibus, magis factum unum positivum vi
quàm mille negativa, valet. Enimverò Doctoris Good testimo
nium in dubium revocari certè non potest, ut testimonium duarum
fœminarum de quibus loquitur Dr Heberden; ideòque nihil
periculi esse potest, opinionem hinc formare. Nec audax
habear, si observationem meam adducam. Ictericus enim
qui hirme pronima in Valetudinario Baltimorensi erat
hâc de re a me sæpè interrogatus, veritatem facti testi
tus est; hoc insuper addens, colorem a flavo ad viridem
semel et iterùm mutatum fuisse. Ad talem autem effec
tum producendum necesse est, humorem crystallinum
fortitanque oculi omnes alios humores, colore flavo
tunicæ sclerotice infectos esse; et tunc impossibile est
concipere, quomodo objecti imago per eos transmitti pos
sit, et eorum colore non tingi. Cùm autem hæc oculorum
conditio minimè universalis, aut etiam communis sit
satis liquet, opinionum de
hâc re diversitatis, explicationem prodet

Hæ porrò animadversiones non ut digressio
proposito habeantur. Certum quidem est, eas cum nullo
principio practico connecti; sed ad facta curiosa in o-
mnibus morbi pathologiâ historiâ, pathologiâque generali
referuntur; ideoque penitùs omitti non debent.

2° De Itero, inflammatione ductuum biliosorum
incusato — Hæc inflammatio sæpè fit causa obstructionis bi-
lis descensûs; et in ductibus ipsis incipere, aut ad eos,
ex hepate, vel intestinorum membranâ mucosâ, extendi
potest. Facta, quibus causa talis morbi proxima fund-
untur, maximi sunt momenti, et satis probata videntur.
Id sæpè notatum est, Icterum effectibus frigoris induci;
præcipuèque aquam frigidam, dum corpus calidum est
bibendo; et tunc rigoribus, multisque pyrexiæ signis,
incipere: non rarò eum comitari teneritatem regionis
epigastricæ aut lateris dextri; et in investigationibus
post mortem factis, inflammationem hepatis, aut tuni-
cæ intestinorum mucosæ, ad ductus biliosos etiam sese
extendentem, aliquandò planè perspectam fuisse.

3° Tertia Icteri causa est lentor præter-
naturalis bilis, unà cum ductuum impotentiâ — Hanc
speciem non enumeravit D. Cullen; sed de eâ trac-
avit Forestus, et Sauvages, aliique scriptores recentio-
es. Facile est concipere, quomodo bilis spissata fieri
potest, dum tenuissimæ in fellis vesiculâ manendo

et partium ejus aquosarum, tenuiumque absorptione; aut secretione crassiori in Jecoris substantiâ. Probabile est, Icterum sine dolore, ut nonnunquam accidit, incipientem, et torpore generali in actione Ventriculi, cordis et arteriarum, nervorumque, notatam, talem secretionis biliosæ conditionem, causam proximam habere. Et pauci sunt Medici, qui non observaverint, dejectiones per os, anumque post obstructionem remotam, valdè tenaces coloratasque esse.

Hæc species plerumque autumno apparet; et ægrum sæpè serò et insidiosè aggreditur. Diù inquietudinem generalem, Anorexiam, somnum per noctes perturbatum, et omnimodam corporis motui, ~~et~~ mentisque labori, aversionem sentit. Urina deindè fit flava; intestina sunt tarda, et dejectiones albidæ. Oculi, superficiesque corporis, fulviores videntur quàm in valetudine et symptoma, quod ægrotum maximè torquet, est, valdè pertinax cutis prurigo. Est etiam, nausea constans, sed non ita magna ut vomitum pariat. Dolor ad regionem Epigastricam, qui in specie suprà memoratâ invenitur, huic rarò adest. Vita ignaviæ dedita, ususque frequentior potuum vinosorum, causæ prædisponentes maximè esse ~~videntur~~ dicuntur.

4°. Proxima Icteri species, ea est quæ lapidosis concretionibus in ductibus hepaticis producitur. Has, a

quandò, Icteri causam fieri, sine dubio, confitendum est. Nonnullis autem Medicis, nimiâ simplicitatis in morbi patologiâ studiosis, casus omnes huic causæ ascripserunt. D. Heberden in "Commentariis de morborum historiâ et curatione", nullam alteram agnoscere videtur, et Eundem partim amplexus est errorem Dr Cullen. Sunt tamen hujusmodi concretiones causa satis frequens, ad investigationem revocandum, de naturâ calculorum biliosorum, origine et effectibus, et utilem, et necessariam, reddendam.

His in exemplis, jecur ipsum sæpè sanum est; morbida tamen hujus organi conditio nonnunquam adest, quæ gignit secretionem bilis, quæ facilius quàm in valetudine induratur, calculosque format. Horum basim Cholesterina constituit; sed Chymia animalis nondum ad id perfectionis progressa est, ut nobis potestatem det, certâ partes eorum componentes designandi. Non inter se multùm differunt, et bilis omnia vel saltem plurima principia continere videntur. Modò crystallinæ sunt, modò ex laminis compositæ. Structuram quoque duplicem exhibent, in medis quidem quasi conantes in crystalla sese corporari, dùm laminæ in superficie inveniuntur. Possunt facilè inflammari; plerumque fusci coloris sunt, sed pauca sunt extrinsecus alba, et internè fusca. Magnitudo valdè mutabilis est; non rarò quidem ita crescunt, ut non tantùm pellis

vesiculam totam occludant; sed eam multùm supra modum naturalem dilatent. Possunt quidèm in ductibus biliosis formari; sed vesicula fellis est sedes originis communis. Quamdiù in eâ confertæ sunt, tamdiu minimum incommodum producunt; quandò autem, ex causis ignotis, in ductus transeunt, nonnunquam, dolorem afferunt intensissimum, semper quidem, Icterum saltem temporarium. Hic dolor, qui ad cordis scrobiculum sentitur, quamvis sæpè ex regione Hypochondriacâ oriatur gravior esse dicitur dolore inflammationis in iis corporis partibus, quæ maximè sensitivæ sunt. Harum in violentia incursionum, forsan inveniretur pulsus parùm festinatus; plerumque autem non est crebrior, et sæpè quidèm tardior quàm in valetudine. Incursionis duratio est mutabilis. In quibusdam ægrotis, dicit Dr. Heberden, Icterum duabus vel tribus diebus evanescere. Eum autem in aliis annum permanere se vidisse testatur. Neque hæc obstructio longa cursus naturalis bilis malos producat effectus permanentes, nec sanitatis pristinæ restitutionem impediet; et, ut suprà diximdùm calculus in Cystide felleâ quiescit, maximus quamvis sit, tam gradatim crescit, tamque tardè organi continentes sese dilatant, ut dolor nullus sentiatur: et multi frui senectute felici, jucundâque, potuerunt, quorum fellis vesiculæ post mortem inventæ

sunt oneratæ concretionibus, quæ ibi, per triginta aut quadriginta annos, gradatim coacervantes sese fuerunt.

Altera quæstio, quæ hic sese offert, est, quomodo, aut quâ vi, calculi biliosi in intestina impellantur? An contractione ductuum, eodem modo ac cibus per œsophagum? An pressurâ bilis accumulatæ? Nonnulli quidem asseruêre, nunquam ita distendi posse ductus ~~hepaticos~~ biliarios, ut per eos transeat calculus magnus; et longè esse probabilius, viam suam rectè in colon ulcerare. Planè cognoscitur hoc interdùm accidisse, calculo per abdominis parietes extracto. Exemplum refert Dr Gregory, in quo cessavit Icterus, brevique æger convaluit, statim atque calculus remotus est. Hâc porrò de re adhuc sub judice lis est; et hoc unum est e dubiis, quæ, in hujus morbi pathologiâ, plurima habentur.

5.° Aliquandò organa prope jecur sita, cadaverum sectione factâ, adeò amplificata, et e loco naturali abacta, inventa sunt, ut ductus hepaticos comprimerent, bilisque transitum impedirent. Hoc vulgò accidit propter Pancreatis conditionem schirrosam, vel glandularum mesenticarum amplificationem strumosam; et idem justè accidisse supponi potest, ubi cadavera non aperta sunt, ex eo quod Icterus sæpè cum morbis strumosis glandularum Inguinalium, cervicaliumque, conjunctus fuerit.

6°. Loco sexto et ultimo, multa nobis persuasionem inducunt, cursui bilis impedimenta sæpè in Duodeno existere — Modus, quo talis producitur effectus, satis evidens est, muco et sordibus ibi accumulatis, os ductûs communis ita comprimentibus, ut penitùs impediatur bilis transitus. Facilitas, quâ morbus, interdùm, cathartico singulo curatur, hanc opinionem confirmat. Infantûm Icterus ex tali causâ originem ducit.

In speciebus omnibus suprà memoratis, hepatis appendices, vesicula fellis, ejusque ductus, sunt, in principio saltem, actionis morbidæ sedes præcipua. Sed altera est, cui nomen Icteri Hepatici dederunt Nosologici, in quâ morbus in jecore ipso situs est. Aliis varietatibus suprà dictis, quandò vetustæ fiunt, veluti consequentia superveniri potest; sæpè autem affectio primaria in Jecore incipit. Bilis cursus evidenter obstruitur; magis autem in hepatis substantiâ, quà bilis a sanguine secernitur, quam in transitu ejus per ductus. Richter, opinionem Vogel et Sell, sequens, ex irritatione peculiari aut in jecore ipso sitâ, aut in toto apparatu hepatico, oriri putat; sed hæc irritatio nec effectus est inflammationis, neque eam producere solet. Hinc distinguendi necessitas hanc inter varietatem, et illam causatam Hepatide, cujus sæpè Icterus merum signum est, non alio modo removendum, quam affectionis idiopathicæ curatione. Multiplicis est generis,

variosque producit effectus, quorum omnes fluxum bilis in intestina impediunt. Jam verò horum effectuum, qui sic operantur, frequentissimus est Schirrosa totius, alicujusve partis hepatis amplificatio; alter est, concretionum in ejus rhymâ coacervatio. Exemplum insigne refert Richter, hominis qui fellis vesiculâ carere inventus est, et cujus jecur magnum numerum albidorum calculorum, formâ, et magnitudine, differentium, continebat. In hoc casu, dicere est bilem ex hepatis penicellis aut tubulis biliferis absorptam fuisse, priusquam in ullo receptaculo colligeretur

Hic infelicissimus est status, in quo Icterus existere potest. Quamvis enim non dolor, nisi parvus, adsit, structuram hepatis ipsam morbidam esse monstrat, sæpissimèque constitutionem fractam et destructam denotat. Cujus speciei victimæ ferè semper ii sunt, qui immoderatè, intemperanterque vixêre, aut vitam regionibus in tropicis duram egêre, aut febribus quartanis aliis-ve Intermittentibus chronicis diù laboravêrunt. Hic auxilia artis sunt sæpè inutilia, nolentesque cogimur Atheniensium peste afflictorum intueri imaginem quam Lucretius delineavit:

"Nec requies erat ulla malæ; defessa jacebant
Corpora; mussabat tacito medicina timore."

Omnes Icteri species, præter Icterum Infantium, vetustæ nonnunquam fiunt, et tunc symptomata violentia plerumque evanescunt. Bilis tamen cursum proprium non resumit, sed plus, minusve, absorbetur, et in sanguinem fertur. Hujus causa esse videtur, ductuum biliosorum inertia, aut paresis paralysi accedens, et irritabilitas absorbentium hepaticorum chronica. Bilis, quæ sic in transitu commoratur, crassior æquo atque etiam vitiosa fit; et hoc moræ est causa additiva. Diù Icterus chronicus interdùm perdurat, et quandò corporis constitutio ei assueta est, parùm impediuntur functiones ejus generales; ita ut homines non rarò ambulantes, negotiaque usitata tractantes, videntur, quibus manu faciesque, et oculi, colore flavo obtecti sunt. Hoc videtur probare meram bilis præsentiam in partibus, quibus non destinatur, non esse corpori incommodum magnum et multa Icteri symptomata alicui causæ ulteriori nobis incognitæ, esse tribuenda. Alteraque Conclusio, ad quam factum prædictum nos ducit, est, bilem vel in arteriis et venis circulantem et sanguine commistam, digestionem posse afficere. Alioquin, quomodò est explicandum hoc factum, Corporis scilicet nutritionem, etiam in casibus violentibus, non multum impediri. Nisi quidem conjecturæ veritas, quam priùs proposuimus, concedatur, Succos nimirùm

Gastricum et Pancreaticum esse bile in secretione a sanguine adeò impletos, ut non sit necessaria suppeditatio directa ab hepate.

Symptomalogia. Ea quæ jamdudùm diximus in primâ hujus thesis divisione, et subsequentibus, necessitatem enumerationis longæ et symptomatum elaboratæ tollent. Sola symptomata, quæ necessariò in omni casu ~~necessariò~~ reperiuntur, sunt cutis et urinæ flavedo, naturalisque fæcium coloris defectus consentaneus. Horum tamen intensio magnoperè variat; modò tunicâ Conjunctivâ solâ colorem flavum exhibente, modò totâ corporis superficie altè tinctâ. Quod ~~colorem~~ ad cutis colorem, attinet vulgaris opinio in tres olim varietates morbum divisit, in Icterum nempè viridem, nigrum, et flavum; atque hæc distinctio Drs Baillie experientiâ confirmatur. Icterus viridis non adeò frequens, sed longè gravior est, ac periculosior, Ictero communi, seu flavo: sæpissimè enim cum Iecore amplificato, duro, et tuberculoso, conjunctus est, ægrumque miserum, passu tardo, sed certo, ad mortem trahit.

Aliæ secretiones, v. g. saliva, sudor, &c. non efficiuntur, nisi gravis, atque permanens, sit morbus. Et hoc notatu dignum est, faciem linguæ superiorem, in casibus etiam gravissimis, parùm mutari, dùm ~~[illegible]~~ inferior altè tingitur. Hæc præter symptomata

quæ sunt, sine dubio, ad bilem referenda in sanguine circulantem, alia diversa, ut languor, lassitudo, mœstitia, cutis prurigo, pulsusque tardus et formicans, magnaque debilitas, sæpissimè adsunt; itemque Dyspepsiæ signa, v.g. anorexia, inflatio, ructus, cardialgia, &c.

Prognosis. Jampridem ea, semel atque iterum, forsan diximus, quæ rectius ad prognosim pertinent; progressus-que communis morbi satis delineatus est. Nunc igitur hoc tantùm memorandum superest, hepatis esse conditionem, quæ judicium nostrum maximè de eventu finali dirigere debet. Si jecur sanum validumque sit, bilisque secernatur qualitatis bonæ minimè periculosus est morbus. Hinc ~~in valetudine plerumque terminatur~~ ab infantibus et juvenibus plerumque depellitur ceterum. Sin autem incipiat in senectute morbus, atque morbidâ cum conditione jecoris sit conjunctus, signum est constitutionis eversæ certissimum, et non præcursor infrequens calamitatum graviorum, Hydropes scilicet Atonicæ, aut Apoplexiæ. Ejus duratio adeò mutabilis est, ut definiri non possit. ~~Si~~ Huic morbo ~~semel experti sunt~~, ~~illi~~ exindè sunt magis obnoxii, qui semel eo laboraverunt

Medela. Si ad libros recurramus, ad remedia hujus morbi invenienda, discemus quidem numerum eorum non esse parvum, sed alias prorsus esse virtutis, aliaque proprietatibus tam diversa, ut eis nulla fides haberi possit. Principia pathologica, quæ supra ponuntur, ad hanc conclusionem nos ducunt, medendi nullum modum generalem dari posse. Necesse est unus interpres sit quisque casus. Diversa requirentur remedia in hujus morbi speciebus singulis. Hoc igitur mihi tantum propono, remedia quæ fidissima digniscima enumerare, paucaque dicere de principiis, quæ nos in eis eligendis, et adhibendis, dirigere debent.

Ubi caligine mergitur morbi natura, in ejus curatione, symptomatum maximè est habenda ratio. Hoc principium omnibus quidem morbis applicatur, sed in ileteri tractatione nunquam prætermittendum est; atque semper indicationem præcipuam, restituendi fluxum bilis impeditum per ductus, eamque per intestina depellendi, arctissimè comitari debet. Quum igitur nulla symptomata gravia, nec dolor in loco particulari, nec perturbatio generalis, adsunt, omnis sedulò tractationem medica vitanda naturæque conatibus omninò confidendum. Sin autem

res non ita se habeat, nobis comandum est aegroto sanitatem reddere, etiam si finem laborum prosperam non expectemus.

Si bilis transitus concretionibus biliosis impediatur, aut Ductus Communis Choledochi strictura, eadem propè tractatio erit in utroque casu necessaria. Causae quidem hae duae simul existere possunt, calculorum irritatione spasmata ductuum longiora aut breviora efficiente. Hae concretiones, quando magnae sunt, permagnam saepè concitant inflammationem, quae tum maxime est metuenda, quum dolor est acutissimus, et multum febris, et tenuitatis in regione Epigastricâ praesurâ auctae, morbum comitatur. Hanc ob causam utile erit, si violentia sint symptomata, et aegri status id permittat, sanguinis quantitatem, pulsûs conditioni, doloris severitati, personaeque aetati, consentaneam, extrahere. Deindè in calidum balneum aeger conjiciatur, in eoque remaneat, donec imminent animi deliquium. Si alvus sit astricta, enemata lenia sunt danda, quae officium duplex perficient; obstructionem scilicet removebunt, atque utilia erunt ut fomenta interna. Opium quoque adhiberi debet, quod per intervalla, ejus effectibus symptomatum que violentiâ, determinanda, iterari potest. Quoniam valdè irritabilis est ventriculus, praeferendum est opium crudum et solidum. Praeter ea, applicationem

d doloris sedem fomentorum calidorum consulere possumus. Laudat etiam D. Thomas, portiones Antim. Tart. et Potas., vel Pulv. Ipecac. Comp., parvas et nauseantes, tumque copiosum medicamentorum diluentium. Conditio autem ventriculi irritabilis horum sæpè remediorum usum stabit.

Emetica sæpè in Ictero præscribuntur, ut aparatum biliosum emulgeant, calculosque versus duodenum impellant. Sunt ad prius officium nonnunquam utilia, sed plerumque nihil aut certè parum proficiunt. Si causam habeamus calculum non sp. magnum putandi, dolorque valdè acutus non sit, utilia fieri possunt, vesiculam fellis plenam et distensam comprimendo, itaque concretionum expulsioni a ductibus biliosis favendo. Dum autem dolor gravis adest, inflammationis præsentiam aut ad eam proclivitatem probans, emetica erunt certè injuriosa.

In juvenum Ictero, sæpè multùm cathartico forte prodest; at post aliorum remediorum usum, intestina, ductusque biliosos totum per patium stimulando, inservire possunt ad calculos expellendos. Dicit D. Thomas, frequenter bonos cathartici effectus se experiri esse in casibus talibus, etiamque in iis, quæ ex strictura spasmodica

oriuntur. Sedes quotidianæ, alvusque soluta sunt certè laboranti Ictero necessaria; et Diarrhœa spontè superveniens morbum omninò depulsit. Sed usus Catharticorum longus, causâ bilis stimuli naturalis defectum supplendi, multum mali produxit. Tumque præcipuè debemus talem eorum evitare usum, quum morbus est multiplex, et affectioni hepatis chronicæ aut viscerum vicinorum junctus; vires enim ægroti consument, quæ maximâ deberent vigilantiâ servari.

Ad calculorum transitum expediendum, auxiliorum unum optimorum erit equitatio, si eam ferre possit æger. Utilisquoque erit electri transmissio in cursu Ductûs Communis Choledici. Satis evidens est, nec unum nec alterum horum remediorum in accessionibus adhibendum; sed posteaquam symptomata violentia subacta sint.

Quum Icterus cum inflammatione conjunctus occurrit, satis apparebit necessitas, eum fomentis lateri appositis tractandi, sanguinisque effusione aut generali aut e loco speciali, et laxativis salinaciis.

Si jecori morbido adjungatur Icterus, vel inde oriatur, hoc organum est, ad quod maxime debemus remedia dirigere. Cum jecoris affectio inflammatoria est, venæ sectio, sanguinis a latere

tractio, apperientes salinacii refrigerantes, et posteaquam
is morbi fracta fuerit, Epispasticum magnum, quod non-
unquam repetendum erit, tractationem optimam genera-
m constituent. Sin autem in statu amplificationis chron-
æ aut Schirrositatis jecur sit, portiones parvæ Hydrargy-
i præparationum, quarum optima est Sub Murias, o
Hydrar. Unguent. lateri adhibitum, Antim. Tartar. Unguent.
uod tantopere commendavit Dr Jenner, et aquæ regiæ
ilutæ balneum, remedia erunt aptissima. Hoc ultimum
uod invenit Dr Scot, magnopere ab eo, nimio ardore rap-
, laudatum est. Dr Good, ex propriâ experientia ju-
ucans, ait, ejus beneficia nonnunquam evidentissima
sse; nam ægroti, qui duos raro menses sine morbi
editu gravi vixerant, balnei post usum, ~~ab~~ eo pror-
ùs immunes fuêre, et omnem amisisse prædispo-
itionem morbidam visi sunt. In aliis autem casibus,
emedium expectationes omninò fefellit. Vis ejus attrib-
ida esse chlorinæ videtur, quæ ab actione Nitrici in acidum
Hydrochloricum aut Muriaticum evolvitur et liber-
tur. Raro necesse est balneum genibus altius adhib-
re, sed artus simul aquâ regiâ, et interdùm corpus
otum ablui debent. Et in pluribus morbis hepaticis
ongis et pertinacibus, affirmat Dr Scot, portionem Un-
iæ dimidiæ aquæ chlorinâ saturatæ, bis terve in die
umptam, beneficium evidens produxisse. Hoc medicamentum

ipse præscribit omnibus in casibus ex bilis secretione morbidâ orientibus, sive hæc sit nimis abundans, seu imperfecta, seu vitiata. Primum balneum sæpè fluxum bilis auget, ejusque emendat proprietates; ideòque fæcium nigrarum, aut bilis puræ, fuscæ, viridis, aut nigræ, expulsionem excitat. Quandò in mediâ doloris gravis accessione ductuum spasmate vel Calculorum transitu allatâ, adhibetur, sæpè more incantamenti agit, levamenque propè instanter affert — Narratio hæc, sine dubio, ardenti Doctoris ingenio exaggerata est; sed remedium est tentamine dignum, non tantùm in hoc sed aliis in morborum generibus.

Hâc in specie Icteri complexâ, juvat in primis uti Hyrdrargyri præparationibus, cum spe quâdam successûs; intelligere enim non possumus quo principio adhibentur, ubi oritur morbus ex obstructione simplici ductuum biliosorum. Talibus in exemplis, utiles etiam esse possunt, secretionem bilis corrigendo, posteaquam remota est obstructio. Hæc quoque Iodinæ præparationes, propter magnam quam habent vim, absorptionem omnibus in organis morbidis et amplificatis augendi, attentionem benè nostram merebuntur. Exemplum unum intra experientiam tenuem meâm vidi, in quo Iodinæ Tinctura et Unguentum diù pertinaciter adhibita, bonum evidentissimum

effecère.

Specifica hujus morbi remedia olim plurima fuerunt, quæ nunc autem meritò negliguntur. Curcuma, Chelidonium majus, et Polytrichum Geoffrey panacea, quæ ducentis abhinc annis tantopere laudata sunt, jam nunquam nominantur; et de Millepedibus qui ~~[illegible]~~ olim ~~[illegible]~~ reperti sunt omnibus in Europæ pharmacopœiis, satis est dicere, ducentos diu quotidiè haustos esse, sine ullo effectu perspicuo. Si quibusdam fidem adhibeamus, inventus est bolum deobstruens, Prunus Lauro-Cerasus; sed mala quæ usum ejus certè sequuntur, bona longè superant, quæ altem dubia, nondumque confirmata sunt.

Canabis Sativæ semina multum a Medicis Germanicis commendantur; et etiam cum urgeat dolor spasmodicus, solatium, cum rapiditate incredibili, præbere dicuntur. Hic quoque Sanguinaria Canadensis, a Professor Smith, in hoc, aliisque hepatis morbis, multis cumulata est laudibus. Tincturæ guttas inter triginta et octoginta pro dose dat, eam secundum effectus augens aut minuens. Modo agendi digitali similis est; sed Sanguinaria Canadensis non est periculosa, magnam quamvis producat debilitatem. Quum inflammatorius est morbus, tale remedium utile fit; sed difficile est intelligere, quomodo aliis in exemplis prodesse queat.

Alterum remedium, minimè prætermittendum,

est Radix Berberis vulgaris, (Anglice Barbay root): hoc enim vir ille optimus, professorque Celeberrimus, Potter, suâ experientiâ teste, optimo cum eventu indidit; et dum exercitationes clinicas medicas, illius sub auspiciis, diligenter adirem, hoc medicamentum, Ictericis in Valetudinario Baltimorensi exhibitum, praecipuè efficax sese praestitit.

Magnum autem desideratum in Icteri curâ semper fuit, remedium, quod vim habeat concretiones solvendi, aut illam saltem hepatis conditionem morbidam corrigendi, quae earum creationi faveat. Vix dicere necesse est, spes nostras huc-usque vanas fuisse. Concretionum Hepaticarum solventia vel magis sunt diffidenda quam quae ad calculos solvendos urinarios exhibentur. Remedia quae jam maximè praescribuntur, obstructionem resolvendi causâ, sunt, Alkalia, sapo Acidum Nitricum, Taraxicum, Aquae Medicinales naturales, ut Cheltenham aquae in Anglia, atque Bedford et Saratoga in hâc in regione, aliaeque quae aperientes sunt, et Hydrargyrum.

Dyspepsiae quoque signa, quae hunc fere morbum semper comitantur, attentione digna erunt. Optime sublevabuntur diaetae studiosâ attentione, usuque amarorum, aromaticorumque sagaci.

Sic principia posui, tam breviter quam possibile fuit, quae nos in Icteri curatione regere

bent. Et nunc denique dicendum restat, dictam
beralem, cœli mutationem, lætam societatem, exercita-
nemque sub Dio temperatam, et maximè Equitationem,
ores totius corporis augendo, plurimum in casibus dif-
cilibus valere, et sæpè medicamentis, vel optimo ju-
cio adhibitis, præferenda esse.

An

Inaugural dissertation

on

La formation des Idées

respectfully submitted to the

examination of the trustees

and medical faculty of the

University of Maryland

for

the degree of Doctor of Medicine

By

J. H. Breda

March. 9. 1833

Essai sur les idées.

Je suis ce qui est, ce qui a été, ce qui sera et personne jusqu'ici n'a encore levé le voile qui me couvre. ——

Les anciens bienfaiteurs de l'humanité paraissent avoir tous été convaincus qu'on peut tromper l'homme, avec avantage pour lui même: mais cette maxime répréhensible, avant que tant de funestes expériences, en eussent démontré la fausseté, ne devroit plus être permise dans un siècle de lumière.

Combien cependant ne voit-on pas encore de Mercenaires fourbes ou ignorans, prêcher les doctrines les plus fausses et les plus ridicules, sous le prétexte qu'une agréable erreur est préférable à une vérité dure et désolante.

On pourroit définir la vie: Une suite de mouvemens qui s'exécutent en vertu des impressions reçues par les différents organes; et les opérations de l'esprit ou de l'âme résultent aussi des mouvemens exécutés par l'organe cérébral.

La véritable source des idées, se trouve donc dans les Sensations. Sentir avec attention, représenter ce qu'on a senti par des expressions bien déterminées; enchaîner dans leur ordre naturel, les résultats des Sensations, voilà l'art de penser.

Du moment que nous sentons, nous sommes: Car sans la Sensibilité nous ne serions point avertis de la présence des objets extérieurs, nous n'aurions aucun moyen d'apercevoir notre propre existance, Car la Sensibilité nous donne une idée de ce qui n'est pas nous, et c'est là le premier pas dans l'étude de la nature.

Si nous n'éprouvions qu'une seule Sensation, nous n'aurions qu'une seule idée, mais nos Sensations diffèrent entre-elles, et les différences de celles reçues dans un organe, Correspondent suivant des lois Constantes, aux différences de celles reçues dans un ou plusieurs autres. nous sommes assurés qu'il règne entre les Causes extérieures, la même diversité qu'entre nos Sensations. puisque nos idées ne sont que le résultat de nos Sensations Comparées - ainsi il n'y a que des vérités relatives à la manière de sentir de la nature humaine.

Il n'existe donc pour nous de causes efficientes, que celles qui peuvent agir sur nos sens, et la prétention de connoître l'essence même des choses auxquelles nous ne saurions appliquer nos facultés de sentir, est d'une absurdité que la plus légère attention fait apercevoir avec évidence.

Les hommes ne se ressemblent point par la manière de sentir, tantôt les impressions glissent sans presque exciter l'attention, tantôt elles la captivent avec une force irrésistible, et laissent après elles des traces profondes, suivant l'âge, le sexe, le tempérament, les maladies, le climat, le régime, l'ordre des travaux, en un mot par l'ensemble des habitudes physiques.

Les Anciens, observateurs profonds, remarquèrent bientôt cette correspondance de certains état physiques, avec certaines tournures d'idées, avec certain penchant de caractère, de là ils formèrent la classification des tempéraments, Hippocrate, dans son traité des eaux des airs et des lieux, avoit examiné l'influence de ces trois causes réunies, sur le naturel des individus, et sur les mœurs des nations.

Il est prouvé que le cerveau la moëlle allongée et probablement la moëlle épinière, perçoivent les impressions sentir par les nerfs.

Les maladies des viscères abdominaux, Correspondent
Souvent avec les alterations des facultés morales
ils Concourent aussi dans l'état de Santé a leur
formation reguliere. Comme on le voit dans le
developpement des organes de la génération qui produisent
un Changement subit et Général dans les idées et dans
les penchants de l'individu.

La Connaissance de l'organisation humaine éclairait
singulierement la formation des idées. Et sans Cette
Connaissance il est impossible de se faire des notions
justes de la maniere dont les instrumens de la pensée
agissent pour la produire - la nature a fait l'homme
avec des organes et des facultés determinées, mais
l'art peut accroitre ces facultés changer ou diriger
leur emploi Créer en quelque sorte de nouveaux
organes. C'est l'éducation ou l'art des impressions
et des habitudes, qui peut se diviser en Celle qui
agit directement sur le physique et Celle qui
Soccupe plus particulierement des habitudes morales.
On voit que la premiere sert de base a la seconde
Elle donne plus de puissance et d'etendue aux facultés
de l'esprit, plus d'equilibre dans les sensations, d'ou il
resulte des idées plus justes des passions plus élevées
qui tiennent au sentiment habituel et a l'exercice
regulier d'une plus grande force.

Le régime est une partie importante dans la science de la vie et il doit tenir le premier rang dans l'éducation phisique. les anciens s'étoient bien apperçus de son influence sur les facultés intellectuelles et sur les passions. on doit regretter que les institutions modernes aient negligé cette partie si essentielle a une bonne éducation. tout le monde sait combien on se rend plus propre aux travaux de l'esprit par certaines precautions de regime, par l'usage ou la suppression de certains alimens. de violents ~~[illegible]~~ accès de colère des delires furieux qui troublaient toutes les facultés de l'ame, n'ont ils pas été gueris ~~par~~ ou ramenés a l'état primitif, par l'usage journalier de certaines nourriture, par l'impression d'une certaine temperature de l'air par l'aspect de certains objets, enfin par un systeme diététique particulier.

Personne n'ignore que les dispositions phisiques les affections de l'esprit se propagent par la génération et que la science de l'homme phisique peut seule contribuer au perfectionnement général de l'espèce humaine.

En examinant les diverses circonstances physiques qui peuvent rendre un homme si different des autres et de lui même il seroit possible de découvrir les moyens de perfectionner la nature humaine, en agissant sur la source même de ses passions et de ses idées.

Les Sensations se présentent d'abord a notre examen. Je crois qu'il ne reste plus a prouver, que la sensibilité physique est la source de toutes les idées et de toutes les habitudes qui constituent l'existence morale de l'homme. Locke, Bonnet, Condillac, Helvetius ont porté cette vérité jusqu'au dernier dégré de démonstration, et parmi les personnes qui font usage de leur raison, il n'en est aucune qui puisse élever le moindre doute a cet egard. Il ne faut cependant pas confondre l'impulsion qui porte l'enfant immédiatement après sa naissance a sucer la mamelle de sa mère, avec le raisonnement qui fait preferer des alimens sains et qu'on a déjà trouvés bons a des alimens corrompus et qu'on a trouvés mauvais. il y auroit peu de justesse a dire qu'elles viennent toutes par les sens, surtout en conservant a ce mot son acception limitée.

Les impressions internes contribuent également a la production des déterminations morales et des idées. Suivant certaines lois, dont l'étude de l'homme sain et malade peut nous faire remarquer la constance.

C'est surtout très evident dans les viscères du bas ventre, les maladies qui s'y forment troublent et quelquefois intervertissent entièrement l'ordre habituel des sentiments et des idées. des appetits extraordinaires et bizarres se developpent, des images inconnues assiegent l'esprit. des affections nouvelles s'emparent de notre volonté, mais ce qu'il y a de plus remarquable l'esprit peut souvent acquerir plus d'elevation d'energie, d'eclat, et l'ame se nourrir d'affections plus touchantes ou mieux dirigées. ils peuvent occasionner la folie, qui n'est autre chose que le desordre ou le defaut d'accord des impressions ordinaires. les organes de la generation, par leur extreme sensibilité, en sont souvent le siege et on la guérit en les ramenant a leur état naturel, leur destruction peut dans certains cas produire le même effet.

L'époque de la puberté nous presente des phenomenes encore plus frappans et plus decisifs. et qui s'y passent suivant des lois constantes et d'après le vœu même de la nature. mais nous accelerons ou nous retardons la puberté par des excitations vicieuses en faisant prendre de fausses routes a l'imagination souvent nous ne lui donnons pas le temps de paraître, et ses effets se confondent d'ordinaire avec l'habitude precoce du libertinage ——

dans les familles pieuses et severes ou l'on dirige l'imagination des enfans vers les idées religieuses on voit souvent chez eux la mélancolie amoureuse de la puberté produire les plus funestes explosions. et laisser après elles des traces ineffaçables

Mais lorsqu'on permet à la nature de suivre paisiblement la marche lorsqu'on ne la hâte ni en l'effrayant ni en la reprimant (car cette dernière méthode est encore une autre espèce d'irritation) l'homme prend tout à coup à cette époque d'autres penchans d'autres idées d'autres habitudes, l'éloignement des objets qui peuvent satisfaire ces penchans s'emploie pour un nouvel être moral de naître de se développer de prendre un ascendant rapide.

Chez les jeunes filles le passage est encore plus brusque et le changement plus général quoique marqué par des traits plus délicats. C'est alors que l'univers commence véritablement à exister que tout prend une âme une signification pour elles C'est alors que le rideau semble se lever tout à coup que leur âme reçoit en foule tous les sentiments et toutes les pensées relatives à une passion, l'affaire principale de leur vie l'arbitre de leur destinée et dont elles regardent quelquefois sur la vie le charme ou les douleurs. — quelle est la cause de ces grands changemens. S'est-il fait des changemens analogues dans les extremités sentantes des nerfs ont-ils reçus les impressions des objets externes. non sans doute. il ne s'est rien passé que dans l'intérieur.

On voit donc clairement que les déterminations morales ne dépendent pas uniquement de ce qu'on appelle sensations. mais que les impressions resultantes des fonctions de plusieurs organes internes y contribuent plus ou moins. et dans certains cas paraissent les produire uniquement. Je dois donc ici écarter des vues du plus grand du plus sage de tous les analystes de Condillac qui s'est evidemment declaré pour l'opinion contraire quoi qu'il soit impossible dans l'état actuel de nos lumières de les saisir et de les decomposer comme il l'a fait pour toutes celles qui tiennent directement aux operations des Sens. Car en connaissant pas assez les changemens qui peuvent subvenir dans la sensibilité des organes internes nous serions dans l'impossibilité d'assigner en quoi consistent ces changemens.

Les oiseaux de la grande famille des gallinacés marchent en sortant de la coque courent après le grain et le becquetent sans commettre aucune erreur d'optique ils se servent donc déjà des muscles de leurs cuisses de leurs yeux et ce phenomene singulier qui s'observe journellement est bien capable de faire rêver les véritables penseurs 3

A quelle puissance faut-il rapporter l'amour maternelle; ces mouvemens d'une nature sublime ~~n'est~~ ne sont ils pas evidement dus aux impressions deja reçues dans la matrice, a l'état des mamelles a la disposition sympathique, ou se trouve tout le systeme nerveux par rapport a ces organes eminemment sensibles Il est sûr qu'en général les femmes froides sont rarement des mères passionnées. mais dans le temps qui precède la maternité dans les animaux ne voit-on pas une suite d'actions, bien plus inexpliquables encore suivant la theorie de Condillac, toutes les especes sont occupés des sentimens de l'amour. elles y paraissent livrées tout entières, cependant les oiseaux au milieu de leurs chants et plusieurs quadrupedes au milieu de leurs jeux, preparent deja le berceau de leurs petits. quel rapport y a-t-il entre les impressions qui les captivent et les soins de leur maternité future.

l'instinct et les idées qui en dependent doivent être rapportées a ces impressions interieures, suite necessaires des diverses fonctions vitales.

l'instinct et le raisonnement appartiennent donc a deux especes de causes, il est bien plus etendu plus puissant (plus eclairé même) dans les animaux que dans l'homme, et il l'est d'autant moins dans ce dernier que les forces intellectuelles s'exercent d'avantage.

Car chaque organe a dans l'ordre naturel une faculté de sentir limitée et circonscrite que cependant des excitations habituelles peuvent reculer beaucoup des bornes de cette faculté mais c'est toujours aux dépens des autres organes. l'être sensitif n'étant capable que d'une certaine somme d'attention qui cesse de se diriger d'un côté quand elle est absorbée de l'autre. les resultats de l'instinct se mêlent donc avec ceux du raisonnement pour produire le système moral de l'homme, et des animaux quoiqu'à un moindre degré il y a évidemment deux genres bien distincts d'impressions qui sont la source de leurs idées et de leurs déterminations.

On a toujours et avec exactitude rangé les impressions sous deux chefs généraux. le plaisir et la douleur. on ne peut concevoir sans plaisir ou sans douleur. leurs phenomènes étant essentiels à la sensibilité, comme ceux de la gravitation et de l'equilibre aux mouvements des grandes masses de l'univers.

L'on peut considérer les operations de la sensibilité comme se faisant en deux temps d'abord les extremités des nerfs reçoivent et transmettent le premier avertissement à l'un des systèmes isolés de l'organe sensitif. —

Ensuite cet organe reagit sur elles, pour les mettre en état de recevoir toute l'impression. la Sensibilité se Comporte a la maniere ~~a la maniere~~ d'un fluide dont la quantité totale est determinée et qui toutes les fois qu'il se jette en plus grande abondance dans un de Ses Canaux diminue proportionnellement dans les autres. — Cela devient très Sensible dans toutes les affections violentes, mais Surtout dans les extases où le Cerveau et quelques autres organes Sympathiques jouissent du dernier degré d'energie et d'action tandis que la faculté de Sentir et de se mouvoir tandis que la vie en un mot Semble avoir entierement abandonné tout le reste.

Dans cet état violent les Fanatiques ont reçu quelquefois impunement de fortes blessures qui dans l'état naturel eussent été mortelles ou très dangereuses. Car la gravité des accidents qui Surviennent de l'action des Corps Sur nos organes depend principalement de la Sensibilité de Ces derniers. verité incontestable Car on Sait qu'un poison violent pour l'homme Sain n'a presque plus d'effet Sur l'homme malade, C'est ainsi que les Charlatans de tous les pays operent leurs miracles. Mesmer faisoit Cesser des douleurs habituelles

En donnant une direction nouvelle a l'attention
Il établissoit tout a Coup dans des constitutions
mobiles des series de mouvemens inaccoutumés
mais qui souvent étoient dangereuses,

Cette reaction de l'organe sentitif sur lui même
pour produire le sentiment et sur les autres parties
pour produire le mouvement a lieu dans toutes
les operations de la vie, elle succede aux simples
impressions d'une part pour les completer, de l'autre
pour amener toutes les determinations qui s'y coordonnent.
la reaction souvent part de tout organe sentitif
quelquefois des troncs inferieurs Comme les ganglions. &c.

Pour se faire une idée juste des operations dans
resulte la pensée il faut Considerer le Cerveau Comme
un organe particulier Destiné Specialement a la produire
De même que l'estomac et les intestins a operer
la digestion, le foie a filtrer la bile, les parotides et
les glandes maxillaires et Sublinguales a preparer les
Sucs Salivaires — les Impressions en arrivant au
Cerveau le font entrer en activité Comme les alimens
en tombant dans l'estomac excitent a la secretion
plus abondante du suc gastrique, et change
Leurs qualités personne n'en doute, ne Sommes
nous pas aussi surs que les impressions arrivent
au Cerveau par l'entremise des nerfs, elles sont alors
isolées et sans Coherance, le viscère entre en action

Il agit sur elles, et bientôt il les renvoie métamorphosées en idées. que le langage de la physionomie et du geste, ou les signes de la parole et de l'écriture manifestent au dehors. on peut donc conclure avec certitude que le Cerveau digère en quelque sorte les impressions, qui fait organiquement la sécretion de la pensée.

La Sensibilité est le fait général de la nature vivante et sans doute un jour on découvrira la liaison que la Sensibilité peut avoir avec certaines propriétés bien connues de la matière. mais il restera toujours a découvrir d'où viennent ces propriétés et ainsi de suite maintenant nous savons que les faits sont, parcequ'ils sont. Comme nous reconnaissons en physique l'attraction des masses. ne sortons donc jamais de la route qu'une saine philosophie nous trace et ne prostituons pas nos recherches a vouloir résoudre des questions oiseuses ou l'observation et l'experience ne pouvant nous servir de guide, il seroit impossible aux esprits les plus fermes de faire autre chose que des faux pas.

le bonheur social ~~et fou~~ et individuel est fondé sur la vertu qui a son tour a pour base la connoissance de la nature la raison et la verité.

Le Cerveau reçoit des impressions diverses par l'effet de changements qui se passent dans son intérieur outre celles que reçoivent les extremités sentantes tant internes qui externes. les folies les Epilepsies, les affections extatiques le prouvent, les impressions que lui procurent la mémoire et l'imagination sont très souvent de ce genre c'est a dire qu'elles ont lieu sans excitateur étranger, l'organe sensitif reçoit sur ces impressions spontanées comme sur les autres et elles se comportent absolument de même il en tire des jugements et des déterminations. en un mot il y a dans l'homme un autre homme intérieur, c'est le Centre Cerebral qui est doué d'une activité continuelle qui lui est propre et qui dure autant que la vie. les effets de cette activité sont bien mieux marqués pendant le sommeil que pendant la veille parcequelle est moins troublé par les impressions venant des extremités sentantes internes ou externes.

L'action de la pensée exige l'integrité du Cerveau mais on ne peut établir avec exactitude en quoi consiste cette integrité, seulement certains états du Cerveau sont toujours accompagnés de dérangements dans les fonctions intellectuelles il faut de plus pour qu'elles s'exercent bien que les impressions soient reçues d'une manière convenable.

3

Il faut surtout qu'il y ait une espèce d'equilibre entre les forces musculaires et les forces sensitives. Car les unes de ces dernières peut suivant les cas exalter ou dégrader les forces motrices. leur langueur peut les engourdir ou les éteindre. quoi que les divers dérangemens de ces deux espèces de forces présentent des phénomènes différents ils montrent toujours que les uns et les autres partent du Centre Cérébral et proviennent d'une même circonstance de la matière organisée, la Sensibilité. —

Les idées et les déterminations qui viennent d'impressions reçues dans le sein de l'organe sensitif sont les plus persistantes les plus tenaces elles sont essentiellement dominantes. telles sont les principales dispositions maniaques. Celles qui sont perçues par les extrémités sentantes internes tiennent le second rang. Ce sont les idées et les déterminations instinctives, enfin les moins profondes et les moins Continues sont Celles qui arrivent par les extrémités sentantes externes et par les organes des sens. Ce sont les sensations proprement dites Celles qui ont presqu'exclusivement occupé les idéologistes. elles ont une relation plus ou moins directe avec l'organe de la pensée a raison de l'organisation des sens par le quel elles ont été reçues. —

La pulpe Cerebrale qui se distribue avec uniformité dans les troncs principaux des nerfs paroit partout la même et tous les sens ne sont que différentes espèces de tact, qui affectent diversement Cette pulpe nerveuse. dans l'organe special du tact les extremités sont très enveloppées et recouvertes, elles le sont moins dans l'organe du goût moins encore dans Celui de l'odorat et encore moins dans Celui de louïe et enfin jusqu'a un et ont un grand epanouissement dans l'organe de la vue.

C'est une loi Constante dans la nature animée que le retour frequent des impressions les rend plus distinctes. C'est a dire moins embarassées les unes dans les autres, mais C'est une loi non moins constante et Générale que les impressions trop vives et trop souvent repetées ou trop nombreuses s'affaiblissent par l'effet induit de Ces circonstances. on dit quelles ne sont plus percues, mais Cela n'est pas Car on apprend toujours a sentir a remarquer a distinguer les impressions qui on reçoit. et Ces impressions sont mieux marquées mieux distinguées quand on y a donné plusieurs fois un Certain degré d'attention et C'est par l'enchainement facile des impressions

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et des mouvemens fruit necessaire de l'habitude que les unes et les autres ont enfin lieu sans presqu'aucune Conscience du moi.

Le tact est le premier sens qui se developpe, et c'est le dernier qui s'éteint, il est en quelque sorte la sensibilité elle même et son entière et Générale abolition suppose celle de la vie.

Le discernement du goût se forme lentement et il n'est rien de plus difficile que de se rappeler ses impressions car elles sont courtes, changeantes, multiples et tumultueuses

Les impressions de l'odorat sont fortes, elles emoussent promptement la sensibilité de l'organe, et cessent alors d'être apperçues elles laissent peu de traces dans le cerveau et il est difficile de se les rappeler mais elles se font vivement sentir dans tout le systeme nerveux, dans le canal alimentaire, surtout dans les organes de la génération et souvent elles se retracent d'une manière involontaire et poursuivent l'individu avec opiniatreté, la véritable époque de l'odorat est celle de la jeunesse et de l'amour son influence est presque nulle dans l'enfance, et faible dans la vieillesse,

L'ouïe et la vue sont les deux sens qui nous donnent des impressions dont le souvenir est durable et precis. Il est bien probable que la perception se fait au même lieu que la comparaison et que le siège de la comparaison est evidemment le centre commun des nerfs. ou le sens interne

La manière de Recevoir des impressions necessaires pour acquerir des idées pour éprouver des Sentimens pour avoir des volontés en un mot pour être différent Suivant les individus, Cela depend de l'état des organes, de la force ou et de la faiblesse du Système nerveux, mais Surtout de la manière de Sentir qui est Si differente, par rapport aux ages, au Sexes aux temperamens aux maladies, aux Climat, au regime. &c. Les bornes que je me Suis prescrites ne me permettent pas de examiner les changemens que Ces Causes apportent dans la Manière de Sentir.

Les Sensations Sont Reçues par les Sens internes et externes. le Cerveau agit Dessus et les Emet pour le bien être et la Conservation de l'individu

Comme le phenomene produit par une machine Electrique, Si l'on peut Se Servir de Cette Comparaison en Supposant qu'un individu n'ait qu'un Sens. quand il est en contact avec un objet il reçoit une Sensation qui est transmise au Centre Sensitif et Comme un fluide passe Se rassemble en plus ou moins grande quantité là Seul ne pouvant Se Combiner avec aucun autre il agit Sur d'autres objets avec plus ou moins de force Selon la quantité qui a été transmise

De même par la fréction le fluide Electrique est ~~rassemblé~~ produit en plus ou moins grande quantité, ~~par~~ les pointes de Cuivre passe aux Conducteurs, et on le reçoit dans une bouteille Cela ne peut ~~pas~~ servir de Comparaison C'est seulement pour rendre plus sensible le passage des sensations au Centre, et Ces sensations admises et Emises en idées sont peut être un fluide animal bien plus subtile que l'électricité, mais qui n'en est pas moins sensible a plusieurs de nos sens de la Ces sympathies et antipathies. &c &c &c — —

An

Inaugural Dissertation

on the

Use of the warm bath

Submitted to the consideration

of the

Provost, Trustees and Medical Faculty

of the

University of Maryland

for the

Degree of Doctor of Medicine

By

Robert Pue

of Baltimore. March 1st 1833

To the Medical Faculty

of the University of Maryland—

This Dissertation is most

respectfully inscribed, as an

indication of the exalted respect

and esteem, entertained by the Author

for their eminent Talents and a

Graduation ——— R. P.

To use the language of another, there are few subjects connected with medical knowledge, that require a greater share of our attention, than the Warm Bath: and yet there is none, which has received so little notice. I believe Doctr Currie of London, is the only one, anterior to the present Century, who has noticed it at all, and his remarks are very brief, having confined himself principally to the modus operandi of the Cold Bath. —

In the beginning of the present Century, a Dr Lochette of Virginia, in his inaugural Dissertation, presented to the Faculty of the University of Pennsylvania some valuable Experiments and Observations on this subject. In his essay he has very properly divided his inquiries, noticing particularly the effects of the Warm Bath on the Human Body in health, its prophylactic properties, and medical properties. Whether or not the Dr did ample justice to his subject I am not warranted to say, but Facts are not wanted to

prove that the Warm Bath properly
and judiciously managed is
deserving of being placed on a
stand as high as the most potent
Article of the Materia Medica. I am
persuaded that used with discretion,
it would prove of more real service
in the treatment of many affections,
and of more benefit to Mankind
than the Lancet of the Materia Medica.
more particularly if judiciously practised,
by one of the Medical Profession. I am
incompetent from my limited Reading
& Knowledge to point out the opposite
conditions of the System in Health, as
well as disease, in which this, the Warm
Bath would be serviceable or absolutely
injurious. therefore shall content myself
with a brief descriptive account of the
experiments performed by Dr Lockette
& the result of his proceedings.—
The Dr in good Health immediately
after Breakfast went into a Bath at 98°
Fahrenheit, in a Room at the temperature
of 67°. Pulse then beating 80. in a minute,
it rose 6 beats in a minutes remaining

and after staying in the Bath 19 minutes his Pulse fell to 70 beats. The Water during this time did not vary more than two degrees. after his leaving the bath and dressing his Pulse beat 77: pr minute making an increase of 7 pr minute. in a second experiment his pulse being 77 temperature of the Room 64. immersed his Feet in Water at 110 Degrees. in three minutes his Pulse increased 16 beats, at this time the Water had lost considerably. & the Dr had slight pain in his Head. In a third experiment Dr Lochette went into a Bath intending to increase the temperature as far as could be borne. after passing through several degrees of temperature, in all which the circumstances & results corresponded with the above mentioned. till he raised the temperature of the Water to one hundred & Eleven Degrees, when the Pulse rose in three minutes 10 beats. the Heat was now insupportable. It produced confusion of thought. partial Delirium. Tinctus Aurium & inability of Speech. Dimness of sight.

with intolerable pain in the Head.
& a most painful desire to make
Water. My sensations says he were
precisely such as they are under a
most violent state of Fever.
It is evident that a perfectly free
circulation of the Blood is brought
about & kept up for a certain time
without any virtual muscular exertion,
& consequently without any expence of
strength. & therefore the Warm Bath
must materially benefit the constitution
of an Individual, who uses it frequently.
& also prove a great auxiliary in
the Treatment of many diseases to
which the Human Family are liable.
The diseases in which this remedy
is usually thought to be most applicable
are those of a nervous character,
accelerating the action of the Heart &
Arteries moderately & in a very
gradual manner, also by its Gentle
Tonic influence over the Skin & Capillary
System, thereby exciting perspiration. frequently
applied with benefit in some approaching
Inflammatory diseases big: Croup before

it is thoroughly formed. may be mitigated very much by the early & judicious applying a Warm Bath. also Gastro = Enteritis is more successfully treated by the frequent & early application or resort to Warm Bathing. Delirium Tremens Shurely a nervous affection although sometimes of an inflammatory character is relieved almost instantaneous by the use of a Warm Bath when Anodynes appear rather to aggravate than appease the symptoms. this is occasionally the case, as I have witnessed perhaps more than once. where Narcotics (many of the class had been used extensively to no apparent benefit. at all events not to the relief of the sufferer. and when the same individual had been kept about 30 minutes in a Warm Bath. perfect quietude was exhibited on his part & very soon balmy sleep to the perfect relief of all unpleasant symptoms. Indeed a case came under my observation fully satisfying me of the propriety of this remedy in the disease above mentioned. where a Person who it was known to the attendant Physician would be likely to prove troublesome

having had several attacks before
in all of which he required large
doses of Tinct Opii & under the influence
of but a comparatively small quantity
with the use of a Bath but once
applied, fell to sleep whilst under its
influence & awoke perfectly relieved. —

Among those nations where Warm Bathing
have been most generally practised and
where its effects have of Course been
better known, no doubts have been ever
entertained of its being very beneficial
to Health, moreover being pleasant &
agreeable in a high degree. The
Warm Bath is objected to on account
of its supposed tendency to predispose
the Individual who makes constant use
of it to the variableness of the Weather
on the least exposure to the Atmosphere,
plausible as it may appear to the
inexperienced — We are informed by the
Literary & Medical that the Russian who
Inhabits the Coldest part of the globe
does not deprive himself of this
wholesome Luxury, under a dread that
it predisposes his constitution or render

it [illegible] qualified to endure exposure & hardships, however highly we may think of the occasional use or repeated & constant bathing, still am disposed to think that the Author whom we have mentioned above eulogises the repeated use of the Warm bath in a state of health beyond what is due, thinking its constant use could be of little or no service except in some forms of Disease, more especially when or when the season was a state variable having a tendency as I am disposed to think rather to dispose to Rheumatic & Similar affections, when indulged in, to the extent recommended by the Count. however it should be highly recommended by the Profession, considering it merely as an elegant and rational refinement.

The manner in which a warm bath operates in producing its salutary effects in the Diseases to which it is applicable are various. its particular action on the Cuticular Vessels seems to be in a majority of Cases, the medium through which

its beneficial effects are most apparent.
in the first place cleansing thoroughly
the surface, thereby allowing a trans
=udation which is always taking place
in a living subject to a more or less
degree, to continue uninterrupted,
moreover inviting by its invigorating
& bracing tendency the natural
perspirable matter to the surface,
thereby producing in the system a
sensible & genial warmth which is
felt throughout the whole surface,
if continued a sufficient length
of time, & is succeeded by a gentle
perspiration which is essential
to the well being of an individual.

The Bath to be of much or
any service in a state of Health
or Disease should be continued
some time and be kept really
warm & not Tepid or Temperate.

Water carries off heat from
any body hotter which is immersed
in it. therefore we are not
astonished at hearing the most
robust express feelings of lassitude

and relaxation after being immersed
in a Bath merely Temperate
any length of time —

Water is 800 times more dense
than Air & consequently must
deprive our Bodies of Heat
with infinitely greater rapidity
than in it the same temperature.

Doct Currie in writing on the
Cold Bath in its adaptation to
Febrile diseases of a low ϑ type
employed in form of affusion, states
explicitly that its effects equalled
his expectations. stating that
used in the first 3 days of Fever
it stops the Disease or if not
entirely, did not fail to mitigate
the Febrile action & cut short
the paroxysm of Fever here he also
states that Tepid affusion cut
short the diseases which he had
to contend with of a low Febrile
Type. he extends Tepid affusion to
almost the whole class of Febrile
affections, frequently combining
the Cold & temperate affusion.

in the same Disease. while the Heat is great. the Skin dry. the vascular action strong. he used Water in the form of Effusion perfectly Cold. when these symptoms diminish he used it Cool, & as they subside Tepid. The Doctr describes an epidemic Dysentery. in this affection he did not use Cold. having learnt by experience that Cold was prejudicial in Fevers attended with affections of the Bowels. but strongly praises the effects experienced from Tepid effusion. abating the heat & relaxing the Tenesmus in a great degree. In Scarlatina he used Tepid effusion with the happiest effects without any regard to the Eruption advising the Remedy to be repeated very often and at short intervals.

In some Cases of Cynanche Tonsillaris. & likewise of Rubeola the Cold effusion was employed in the earlier Stages. There was no

injury produced but were noticed as proving singularly mild Dr C uses the Warm Bath successfully in Influenza also in this disease the Cold Bath to keep down the flushings which are attendant, at the same time allowed Wine & a generous Diet — The Warm Bath is used in an opposite state of the System to that in which the Cold might be advantageously practised therefore we cannot reconcile ourselves to the statements of Dr Currie when he says that he used both in the same Disease profitably. having reference to Warm & Cold Affusion practised in Febrile Diseases of a low Type a Temperate Bath may be applicable to the same Cases as a Cold Bath & may be used in the same manner but not in the same state of the System. the Cold Bath producing a shock too violent in many cases an objection which the W. Bath is free

from. The Cold Bath should not
be used in any cases where there
is a tendency to Consumption,
also should be prohibited in
Cases of Plethora & full habit
of body. in Hamorrhages. & in
every kind of inflammation,
in Constipation. & in diseases
of the Breast. Difficult breathing
where there is an acrimonious
state of the Fluids, Bad Colour
of the face. in fits of the Gout.
in Cutaneous Diseases. & in a
state of Pregnancy. of all
kinds of Bathing the Shower
Bath is perhaps preferable.
and possesses advantages superior
to all others. The Warm Bath
on the other hand is eminently
serviceable in all the above
mentioned affections. In Spasms
in Violent Pain from any Cause
produced. as well as in
Hectic & Emaciated Persons.
Instead of heating the
Body it has a tendency &

and cooling effect in as much as it obviously abates the quickness of the Pulse according to the time the individual continues in the Water, a circumstance which certainly must be regulated by the character of the affection as well as the effect of the remedy must desired. Where a lightly invigorating & tonic effect is wished to be produced the Bath sufficiently hot. I judge should be continued a less time whereas in Nervous Complaints where a sedative as well as Tonic influence is to be looked for in the application of the Bath it should be kept up for a considerably longer time. (Say half an hour or an hour when a perfectly sedative influence is required. -

In Women advanced much
in Pregnancy Warm Bathing
is forbidden by many
Professional Men of standing,
& perhaps in a majority of
instances justly & more particularly
when it is not continued for
but a short time, thereby only
increasing the action of the
Sanguiferous System, an effect
which is generally in such cases
prejudicial, from its tendency
to produce Premature Labour.

The Warm Bath I believe
to be justly the Sheet Anchor
in the Treatment of almost
an innumerable class of the
Diseases to which Women &
children are alone liable.

It may be used daily
advantageously by children
in a perfect State of Salubrity
particularly in approaching
Summer, a time when Infants
are apt to bring about diseases
from their want of judgement

to self preservation, and a neglect of on the part of those who preside over them, in the capacity of / nurses.

In Dysmenorrhoea we are told that the warm bath frequently has a very soothing influence & can be used beneficially in many cases, as a coadjuvant. —

There is says the Author, a Write in the declining state of Encephalo Spinetis, certainly difficult to recognise & kept perhaps to the experienced & practised, a time when the tranquilising influence of a warm bath, will prove of eminent service, and in many cases be the means by which the Life of a Sufferer is prolonged.

— Finis —

AN

INAUGURAL DISSERTATION

ON

GOUT

FOR

THE DEGREE OF DOCTOR OF

MEDICINE

BY

JOHN T. ARCHER
Citizen of the STATE of MARYLAND

SUBMITTED

To the Provost, Trustees and Medical Faculty of the University of

Maryland. 1833.

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Dedication To.

Robert Harris Archer M. D.

Honored Sir.

In offering you in this manner the first fruits of a medical education which has been pursued with so much pleasure under your direction, I feel a peculiar degree of satisfaction.

When I solicit you to receive this dissertation as a testi=mony of my regard, I, at the same time offer you my warmest thanks, for the care with which you have conducted me from a very early period of my life to the present moment.

Accept, Sir, my most fervent wishes for your health, for a continuance of that life which has been so eminently useful to others, & for your future happiness

I am honored Sir

Your Sincerely affectionate Nephew

John T. Archer

Dedication To.
Alexander Clendinin M.D.
Of
The City of Baltimore.

Much respected Sir

Permit me to return you, my unfeigned ac=
=knowledgements for the friendship and politeness you have
on so many occasions shown me.

I beg you will also receive this dissertation
as a mark of my respect and accept my numerous
wishes for your prosperity.

I am
respected Sir
Your very Sincere friend & pupil.
John I. Archer.

Introduction

When we take a retrospective view of the disease which affords the subject of the present dissertation, whether on the pages which Physicians of the highest celebrity have left behind them, or, even within the narrow limits of our own immediate observation, we cannot fail of being sensibly struck with the fact, that there are few diseases which have remained more enveloped in doubtful theory, or in which the practice has been so unsettled and involved in prejudice

It may indeed be affirmed, that the gout has at all times been a favourite object for the exercise of empiricism, and every day's observation demonstrates that whilst impositions of quackery are received by persons labouring under the disease with the fondest credulity the safe and probably certain means of cure are looked upon with indifference or even rejected, so much does an unknown agent influence the imagination and indispose the mind to the exercise of the more sober faculty of judgment.

We might, in a few words, point out, the absurdity of the employment of empirical remedies. Even the occasional success of a nostrum is injurious in its consequences, from the numerous misapplications to which such success gives rise. Hence the more reputable the medicine, the more extensive the evil. —

In a medicine of known composition and properties when administered as a remedy for the same disease in different persons, we see the action so much modified by individual constitution, that in one instance it aggravates the symptoms as much as in another it gives relief.

How much more indefinite & hazardous, must be the application of a medicine, which is offered as a remedy for disease and indiscriminately adopted in every kind of constitution. If any active powers belong to such a medicine its inappropriate employment must produce much injury. If, on the other hand, it be inert in its properties it becomes a source of harm, by excluding other means, that might be beneficial.

The question, how much has the medical art really deserved the reproach and calumny, that have been heaped upon it with regard to this disease? might not be amiss.

In the first place a large class of subjects who are affected with Gout, submit themselves wholly to empirical treatment. In the second place another portion (and perhaps not the smallest) to patience & flannels. They do this, either because they labour under the infatuation, that Gout is a remedy for other diseases and should be rather invited than forbidden in its approach and stay, or because they distrust the efficacy of remedies.

From persons of this character the medical art

in my opinion deserves no censure. For if the popular opinion be, that the cure of a disease is hazardous it seems reasonable that it should not be made the opprobrium of the healing art, the patients will conquer their fears & allow that it ought to be cured.

It may indeed be fairly admitted that no part of the whole extent of Medical Science has been investigated with such attention as Gout and by no one certainly has that investigation been prosecuted with so much success as by Doct Cullen – It is however, I fear, allowable, that the regular treatment of Gout has been considerably neglected by the profession. It appears to have been, in this respect an object of much less attention than other diseases of equal importance and all parties pronounce it intractable in its nature and but little understood. In this reflection, however, I do not overlook the several modes of active treatment which have at different times been proposed within these few years. Yet it appears to me that the views which have been taken of the nature & the Cure of Gout have been too partial and deficient in attention to that Code of general principles, which is essential to the true understanding & treatment of every disease.

I hope the reader will not conclude that under these corrections, I consider myself able, to advance any new theory, which shall lead to uniformity of success in the treatment of the disease, or that I shall lay down a method of cure, that shall invariably succeed. I should

rejoice were I able to do either. I shall have performed no useless task, if it should appear that I have entered upon the right path of investigation & have presented before your honourable body a clear and comprehensive view of the subject.

Without a more prolix exordium I shall now to the immediate object of my Thesis. I feel my inability to discharge the duty & regret my incapacity of rendering it more worthy the reader's attention. I submit it, with reluctance to his inspection. His liberality & candour will forgive the inaccuracies, with which I am confident it abounds —

An Inaugural Dissertation

Dr Cullen the author who, on the subject of nosology, continues to be the standard authority in the British Schools of medicine gave the disease under consideration great attention and certainly displayed great ingenuity in his detail of the general characters and varieties of it. His definition of the disease is the following. "Hereditary, arising without any evident cause attended with fever, pain at a joint and for the most part at the great toe certainly most strongly affecting the joints of the feet and hands, returning at intervals and often alternating with affections of the stomach and other internal parts." He also makes four varieties of the disease. They are "The regular, Atonic, retrocedent and misplaced Gout." I will take the liberty of offering a few comments in the order of the quotations which I have made. —

The term hereditary may be applied to Gout as a general character of the disease, yet as it is more frequently acquired where no hereditary predisposition can be traced, than where such influence does exist, this circumstance is erroneous as a definite character of the complaint.

The disease is also, often, called into action in the first fit, by an external and evident cause, viz vicissitude of temperature, a Sprain, contusion or any kind of local injury which in a person not disposed to Gout, would have produced only common inflammation.

As a general position, fever is correctly stated to be a character of the Gouty paroxysm, although it is not invariably an attendant.

"Pain at a joint & for the most part the great toe certainly most strongly affecting the joints of the feet and hands" — This implies too strongly that a joint is the only seat of the disease. Certainly if the joint of the foot be the part first attacked, the description is just. It is the case also that Gout chooses in its first attack the foot & the ball of the great toe. It is in the commencement of the disease that this circumstance is most remarkable but even in its first attack it sometimes affects the tendinous parts of the foot and hands. In subsequent attacks, many other situations more remote from the feet and hands are affected (in an equally characteristic manner).

The definition therefore is calculated to mislead and is exceptionable — The latter part of the definition I

pressure expresses that there is frequently a sympathy between the stomach & some other internal part and the external seat of the complaint. So that if the stomach be affected with spasm, pain coldness, nausea, or vomiting or any other uneasy sensation, the occurrence of external inflammation & pain may often produce internal relief, and in a certain degree the converse of this may take place —

With respect to the several varieties, which Dr Cullen has made of the disease I think they are objectionable in the first place, because the fundamental distinctions of regular and irregular convey on the one hand more precision of definition than the various modifications, which the disease assumes, seem to admit and on the other allow more latitude of application than is compatible with good practice. In the second place, because in Medicine more than in any other art, it is dangerous to frame distinctions without a difference.

The last variety of Dr Cullen, appears to me to be only a repetition of the third, with this difference, that the internal affection is unequivocally designated as one of inflammation —

With this conviction and a persuasion that the separation of a disease into many varieties is as useless as it is difficult I purpose to divide Gout into acute, chronic and retrocedent, considering the acute as the first variety, the chronic as the second & the retrocedent as the third —

In entering upon the first division of my subject

I shall in the first place consider the general character of the Disease Dr Rush calls the Gout "a disease of the whole system affecting the ligaments, blood vessels, stomach, bowels, brain, liver, lymphatics, nerves, muscles, cartilages, skin, & even the bones". I would define Gout to be a constitutional disease producing an external local inflammation of a peculiar kind. The susceptibility to it, often depends on hereditary bodily conformation & constitution but is more frequently acquired — It occurs at those periods of life and those seasons of the year in which inflammatory diseases are most common — It seldom affects persons before the age of puberty or in very old age — It occurs most frequently between the ages of 25 and 40. Dr Rush has known it to occur in a boy of six years old, and in a man of 80 years. It affects the male sex more frequently than the female. The more common occurrence of it in the male sex than in the female must without doubt be referred to the chief remote cause except in living & especially except in wine being more frequently applied by the former — The peculiar delicacy of the female constitution & habits may put some restraint on the acquirement of the inflammatory and plethoric state of vessels which appertains to Gout. It generally attacks women in the chronic form — With but few exceptions to the general rule a circular chest large full veins relaxed solids and tendency to corpulency may be said

to previne in gouty persons. In its first attacks it invades usually one foot only and most frequently the joint of the great toe, but, in its returns it affects both feet or other situations as the hands knees & elbows & not only are the articular structures concerned but also other textures belonging to the moving powers. It is often attended with sympathetic inflammatory fever, which is is usually marked by nocturnal exacerbations and morning remissions — It is much disposed to return at periodical intervals and for the most part is preceded by some premonitory symptoms. I will now proceed to the first division of my subject Viz the acute form of Gout —

Definition

I would define this state of Gout to be inflamma= =tion & pain of the articular tendinous, or bursal structure — It usually attacks one part only at the same time, but in succession of attacks it affects different parts together. A preternatural fulness of the adjacent veins, appears, and in certain situations an oedematous swelling of the integuments occurs in 24 or 48 hours from the invasion of the fit. A redness of surface which is sometimes shining, entire disability of the affected part peculiar sensations of burning, throbbing and of weight characterize the disease. It changes its situation spontaneously. It flies from one

part to another in the twinkling of an eye. It terminates invariably without suppuration and universally with some critical indications of the event.

Symptoms

The immediate invasion of the disease on some occasions and especially in the first fit, is not preceded by any warning. The patient after going to bed with the ordinary feelings of health is surprised in the night with the first symptoms of the disease. It more commonly happens however except in the first fit that some premonitory symptoms precede the paroxysm for several days. These symptoms are a depression of spirits, drowsiness with frequent yawning, night mare restless sleep, flatulance, acidity of the stomach, irregular appetite with oppression after meals, a frequent sense of coldness and soreness of the epigastric region. Scanty and deep coloured urine pricking and numbness in the lower extremities, more particularly in the one that is about to be attacked, much coldness of the legs & feet & occasionally general chilliness, Symptoms, indicating general disturbance of the system, occur, as pain in the head, & frequent flushings of the face with a pulse full hard & strong. A cough mucus secretion in the tracheal membrane, sometimes precedes the fit. A burning sensation in the eyes, a remarkable irritability of the bladder and

urethra, with increased secretion in the mucus membrane of these parts, prevails in some persons, before the fit. A swelling of the feet after slight exercise, a stiffness and dry state of the skin with more or less heat in the soles of the feet may be numbered among the percursory symptoms. These are the usual premontory symptoms of the fit. Whether any warning has been given or that the patient has been seized with Gout while in the apparent possession of health, the most frequent time for the invasion of the paroxysm is between 12 and 3 o'clock in the night the exact period being liable to some variations according to the habits of the individual, and his hours of rest. He is suddenly awoke with pain in the affected part which is most commonly the base of the great toe & immediately experiences in some degree sensations of heat, stiffness & weight. These feelings soon increase to throbbing & burning. The patient becomes restless, watchful & feverish until about five o'clock in the morning; when an abatement of the symptoms, with general perspiration permits some sleep. On the first morning, frequently the surrounding integuments are swollen the skin is slightly red and the inflamed parts appear remarkably full. The swelling does not invariably take place at one particular period, but comes on at different times. It generally takes place in the course of 24 hours from the invasion of the fit & is rarely delayed beyond 48 hours. In a severe attack

there is scarcely any remission of the symptoms for two or three days but more usually they are suspended or abated in the day and return with violence in the evening or before midnight, lasting until about 4 o'clock in the morning. Frequently on the first morning of the disease the integuments pit slightly on pressure and on the second, this effect is very distinct The surface becomes of a scarlet red, the patient complains of heat & pain in the part. The pyrexia and disorder of the natural functions which accompany the first fit appear to be truly symptomatic and are proportioned to the inflammation and pain. In very slight attacks, the sensible influence of the disease upon the system, is so moderate, that the patient is induced to believe that he has only received a strain or some other local injury. In the first fit attacks of this kind prove only of two or three days continuance As a general rule the duration of the first fit is seldom less than five or more than ten days. The redness that has been mentioned continues a short time after the disappearance of the inflammation and sometimes the cuticle desquamates. The frequency of returns of Gout after the first fit is in proportion to the constitutional tendency of the individual to the disease and his mode of life. If the toe of either foot was the affected part in the first fit the same toe is the part most commonly attacked

in the second paroxysm and it seldom happens, that the other foot escapes. As the disposition of the constitution to the disease, increases the intervals are shorter, the fits of longer duration, and the parts affected, more numerous The Gout, more than any other of the Phlegmasiæ is disposed to return at periodical intervals and sometimes in its annual visit is punctual, almost to a day. The disease is liable to occur, at any season of the year. The early part of Spring and the latter part of Autumn are periods of the year during which it is most prevalent In slight attacks, it sometimes happens, that the secretions do not exhibit any marks of morbid appearance to the Eye. but in severe cases the digestive functions are evidently affected. Indeed the whole alimentary canal, from the Stomach to its termination in the rectum participates in the disease. Flatulency, sickness, indigestion, pain and vomiting and foul tongue are frequently present. The bowels are for the most part torpid. When excited by medicine the fæces are very offensive, loaded with viscid mucus and of a ~~deep~~ dark appearance. The urine is of a deep colour than natural is secreted in very small quantities & on cooling deposits a pink or brick dust Sediment.

The nervous system is in a high degree of excitement. Sydenham very forcibly describes the pain in the beginning of the fit. He represents the

pain as that from "the gnawing of a dog or of a dislocated limb". He adds "that parts affected are so exquisitely sensible that the patient is not able to endure the weight of the clothes nor even the shaking of the room from a person walking therein"

The muscles are sometimes affected in Gout with spasm, partial convulsion & lastly with pain. The muscles seated on the thigh and leg are most frequently affected. The muscles which move the toes & fingers, the diaphragm, the muscles of the chest and abdomen & those of the ribs are not spared in this painful affection. The arterial system is affected in Gout with fever. This fever appears, not only in the increased force & frequency of the pulse, but in the morbid state of the viscera Dr Rush says it puts on all the grades of fever from the malignancy of the plague to the mildness of a common intermittent This febrile action is symptomatic. It returns at night with the pain and increased disorder of the affected parts & in the morning, as the local symptoms become milder, the fever abates When a strong inflammatory diathesis is present the action of the heart & arteries is violently increased and universal heat of skin, with the universal symptoms of fever is present. The intervals between the paroxysms is subject to great varieties, sometimes a long and violent fit is succeeded by another of equal magnitude. It sometimes happens that according as the immediately

preceding fit has been more or less severe. The following fit comes on in a longer or shorter space of time. Finally it may with little exception be remarked that the Gout acquires strength with each returning fit both with regard to the number of parts which it attacks and as to the duration & degree of suffering. It does not like some diseases wear itself out by repetition & yield to the friendly power of time. Both constitutionaley and locally the susceptibility to the disease, increases A premature old age comes on, and together with crippled limbs the nervous system is so enfeebled that both mind & body grow less able to sustain the conflict and Death closes the scene.

Diagnosis

This disease, although supposed by some pathologists so much to resemble rheumatism is not so nearly allied to it as they are wont to imagine.

Their remote causes are different. The predisposition to rheumatism is not hereditary. The secretion of the urate of soda is not found in rheumatism. The Gout attacks suddenly and affects the smaller joints The rheumatism appears in the muscles and effects the larger joints. The Gout has its origin in excess of eating and drinking Rheumatism in Cold. The affection of the stomach which precedes Gout rarely does rheumatism. The remissions from pain during the day are much more

distinct in Gout than in Rheumatism - A serous effusion in to the Celular membrane takes place almost immediately after the invasion of the fit in the parts affected. The turgescent state of the Veins is more marked and general than in rheumatism. The acute sensibility of the parts, is also remarkable and may be regarded as a diagnostic symptom. The observations of Dr Potter (whose authority is always of a superior kind) will assist me, in my diagnosis "Whether Gout be hereditary or acquired (says the Doctor.) the first cause always imparts an exquisite constitutional sensibility to the nerves of the ligaments & tendons. and this is transmitted from one generation to another. This extreme sensibility resides principaly and primarily in the stomach of some persons, but not in others. In rheumatism the accumulated excitability under a low temperature is incidental and transient and constitutes no part of the temperament of the patients' progenitors. The exciting causes are usually the same - It is the remote cause that gives the character to diseases except so far as they are modified by difference of organization. No degree of intemperance nor indulgence in sensual gratifications can engender a rheumatic pain. But this cannot be predicated of gout. On the contrary a low temperature which is the legitimate [illegible]

remote cause of Rheumatism cannot produce a solitary twinge of Gout unless a predisposition already exist & then it can act only as an exciting or assistant cause"—

Remote Causes

These are such as induce general predisposing, direct or indirect debility.

Among such as induce this debility are—

Indolence, great bodily labour, long protracted exercise, intemperance in eating, excessive venery, acid aliments & drinks strong tea & coffee, public and domestic vexation the violent and long continued exercise of the understanding of the imagination or passions in Business, or pleasure & lastly the use of ardent and fermented liquors.

Exciting Causes

The exciting causes are stimuli of all kinds. Cold either with or without moisture, is among the most frequent of the exciting causes.

A full meal— Acidity when much accumulated in the primæ viæ will powerfully concur with other causes to excite the fit & will sometimes alone prove sufficient

External Injuries

As Strains, Contusions or any mechanical violence, fatigue, anxiety, a fit of drunkenness, passions of the mind, as a sudden paroxysm of joy or anger, In a word the exciting causes are frequently a greater degree or sudden application of its remote & predisposing causes. They act upon the accumulated excitability of the System

and by destroying the equilibrium of excitement & regular order of actions, produce convulsions, or irregular morbid & local excitement.)

Proximate Cause.

Various indeed, have been the sentiments of authors respecting the proximate cause of Gout, This subject of investigation, has, it appears to me; with regard to diseases in general, proved an Ignis fatuus to medical theorists. Some writers assert that the proximate cause consists in excess of uric acid, as Brandt & Holme. Others, in excess of phosphoric acid as Berthollet. According to Broussais the proximate Cause of the disease consists in a peculiar irritation of the mucus membrane of the alimentary Canal. None of these, appear to me to be satisfactory. I Consider the proximate Cause & disease in no other light than as different terms, expressive in the end of the same thing. For if we define the proximate cause of a disease we have the definition of the disease itself with this difference alone, that in our definitions of diseases we include the most prominent effects of their proximate Cause. Can we suppose this disease to exist in any of the above mentioned causes? By no means. From our view of the subject these causes appear to be no more than mere effects of the disease or in other words of the proximate cause. From what I have said, the reader, will no doubt

conclude, that I do not intend, giving any proximate cause I certainly think it unnecessary. Yet as it is so customary, I will do so, & I flatter myself he will, with me, view the proximate Cause of this disease, as consisting in morbid excitement accompanied with irregular action.

Prognosis.

In giving the prognosis of diseases, perhaps more than in any other way, Physicians expose themselves to the contempt & ridicule of the world — Dr Rush observes that "in acute diseases it is impossible to tell when life ends & death begins. Hundreds of patients who have been pronounced incurables, have recovered, to the great disgrace of the profession. The events of the first attack of the disease is often so favourable, that the patient congratulates himself on the benefit he has received — In severe and complicated Cases of the disease, it affords him a very different prospect. The favourable prognosis and ter= —minations of the symptoms are indicated almost solely by local appearances. Among the favourable signs, are the visceral organs being sound in structure, an entire cessation of fever, the tongue moist & clean a return of natural appetite, the faces recovering their natural character, the urine ceasing to deposit sediment, and losing its high specific gravity. The nervous system

becoming tranquil, the local symptoms yielding in their
vicinity to remedies. The inflammation not showing a
disposition to transference from one part to another, or
if it be fugitive, not fixing severely in new situations
A cool skin is favourable — The desquamation of
the cuticle when it does occur indicates that the in-
-flammation has wholly removed from that particular
part — On the contrary when the opposite of these
symptoms, are observed, a tedious & intractable disease
is to be apprehended. Among the unfavourable signs, I
consider a sudden metastasis of the disease, from one
part to another as to any of the viscera, joined with fever
and an exquisite sensibility of the whole nervous system.
Unless symptoms of the above kind did appear, I should
be backward in pronouncing an unfavourable prognostic.
Patients have lived to a good old age under this disease
The gradual inroads, which it makes upon the system
when uncontrolled, imbitters all the enjoyments of life
and should be sufficient to induce the patient to submit
to any privations that might be necessary for his cure.

Method of Cure

In the cure of this stage of Gout, the following indications
are to be fulfilled. The treatment during the forming stage
The treatment of the paroxysm.

The local remedies to be made use of. and lastly
The treatment during Convalescence.

The treatment of the forming ~~of the Gout~~, stage. The premonitory symptoms are (as already mentioned) great lanyour & dulness of mind, giddiness wakefulness, & sleep disturbed by dreams, a dryness, coldness and sometimes pricking sensation of the feet & legs, occasional chills, acidity & flatulency of the stomach, with increased or weak appetite. These symptoms are not universal but more or less of them usher in a fit of the Gout. During the existence of these symptoms the disease is unformed, and may be prevented by the loss of a few ounces of blood, or if this be objected to by a gentle dose of physick and afterwards by bathing the feet in warm water. — A few drops of harts-horn in a little sage tea, a draught of wine whey or a common dose of tincture of Laudanum might be given after the inflammatory symptoms abated.

The treatment during the paroxysm.
I shall begin this head by repudiating the specific efficacy of any one remedy in the Materia Medica. Every attempt to cure it by elixirs, pills, or boluses which were intended to act singly on the system has been as unsuccessful as the attempts to cure whooping cough by tricks or spells. Our choice of remedies should be in

accordance with the symptoms of each individual case regard being always had to the predisposing & exciting causes by which the fit has been introduced, and our practice should always be regulated by the age, constitution and temperament of the patient. The first remedy that I shall mention under this head is blood letting. It has the sanction of Cullen, Rush and Potter in its favour. and many others of the first authority in medicine. It may be remarked that the employment of the lancet in Gout is not allowable with the same freedom as in other phlegmasiæ in most of which it is our chief dependence. In Gout, it commonly happens that the increased incitement affects the nervous system much more than the heart and arteries. The redundancy of blood, appears rather to belong to the circulation of vena portæ than to that of the general system. It is I believe a practical fact, that this kind of partial plethora is more effectually removed by purgatives and diuretics, than by the detraction of blood itself.

In forming our judgment as to the propriety of this active instrument of benefit or injury, due consideration should be always given to the exciting causes. If they be of a temporary or transient nature such as the effects of a full meal, or of the passions of the mind, bleeding will not then be necessary. Their effects may be relieved by other means. But when

there is a predisposition of the system, to inflammation wet and cold or excess in ardent spirits having been the exciting causes, bleeding will then be admissible. To be useful it should be employed early, its delay counteracts its advantages. The above considerations being borne in mind it is impossible for the physician to err.

The second remedy to be employed, is the combination of cathartics and diuretics. The efficacy of cathartics in reducing action in the system, is acknowledged by all. and in this disease they are certainly efficacious. Indeed some authors maintain that the successful treatment of of Gout, depends chiefly upon the choice and free employment of purgatives & diuretics. Two or three evacuations should be procured daily, Calomel with Rheubarb is an excellent purgative in this disease – The following cathartic, as recommended by Scudamore is very good. Calppt grs XV. Tart. Antim. 1 gr. Ext. Colocynth compos ʒss To be made into XVI pills Dose one two or three in the evening. In order to affect the bowels & kidneys at the same time the following draught of Dr Scudamore is excellent. Magnesia. Calc ℈i Sulph. Mag ʒiss Vinum Colch ʒiss Aqua Fort Q. S. – This is to be taken at once & repeated every five or six hours according to the freedom of the operation and the urgency of the symptoms.

Colchicum is a remedy of great powers in this disease
It seldom fails to cure the local symptoms speedily.
According to some physicians it leaves the disposition
to the disease more strong & leads more speedily to the
chronic form. I think it probable that these consequen-
-ces are the result of the improper or inordinate use of this
article. Under judicious management it is as safe as
it is valuable

3d Emetics. These are useful & highly spoken of by authors.
Dr Rush recommends them. They may be advantageously
employed when bleeding is objected to. They unload the
stomach & viscera in general by removing their vitiated
secretions. They Equalize the diminished excitement of
the system &c. &c. Dr Rush relates a case where an
emetic cured a fit of the Gout in a British officer.

4th Sudorifics. Medicines of this class, as they tend
to debilitate the stomach, should be given with caution
Senega Snake root is recommended by Dr Rush.
Antimony, in small doses in conjunction with opium
and also with Calomel, is spoken of, as an important
remedy. I would be careful, however, not
to relax the system too much. An obvious disadvantage
would arise from this procedure. The susceptibility
of the surface of the body to changes of Atmosphere would
be increased and at the period of convalescence, there would
be danger of a relapse. All sources of stimulus to the

inculation being removed a hot and dry skin will soon yield to the action of purgative and diuretic medicines

The Narcotics. Opium, under proper management, is no less advantageous than powerful for the relief of the most distressing of all the symptoms, the pain of the disease. The Hyosciamus, Atropa Belladona Aconitum napellus & all the different Narcotics are probably useful under certain circumstances. They should never be employed before the high action in the system is reduced. They should be given in small doses, accomodated to the excitability of the system — one grain of opium every hour or two, until the pain abates is a good mode of administering this article — It renders the pulse less frequent, causes a gentle diaphoresis & tranquelizes the nervous system The local remedies to be made use of, is the next point of consideration. The local inflammation of Gout, has never, I believe, been treated upon regular & fixed principles

By one kind of management, it has been increased and prolonged, by another, it has at once been removed. Leeches increase rather than diminish pain. Blisters are recommended by Rush & Cullen. Warmth by the application of flannel & cotton appears to be attended with little or no advantage. Cold applications, will often suddenly remove the pain, but are apt to produce dangerous metastases Warm fomentations, poultices &c have been used by Physicians

Dr Sendamore speaks highly of the following evaporating lotion Viz. one part of Alcohol and three of Camphor. This remedy has never been known to fail of giving relief in the hands of Dr Sendamore but in two instances. The sovereign object to be kept in view in this disease, is the Constitutional treatment. By restoring the healthy state of the general system. the local symptoms will soon give way. The local treatment however should not be neglected Whenever the local symptoms are violent, some one of the remedies I have mentioned should be tried.

In addition to what I have already hinted at, I may again advance the fact, that as the Gout has its seat only secondarily on the surface of the body & its true Character depends primarily upon an obstructed & vitiated secretion of the digestive organs and the liver especially So in conformity with this view the use of purgatives & diuretics of mild mercurial and anodyne medicine, forms the most efficacious method of treatment

Treatment during Convalescence.

After slight attacks and before the constitution has suffered much nothing need be done during Convalescence. But in violent & protracted cases, particularly often repeated attacks, medical treatment becomes of the greatest consequence.

The functions of the digestive organs, of the stomach, liver, of the kidneys & the skin, become very

much enfeebled in cases of this kind & it is necessary to restore them to their healthy action

For this purpose, small doses of the blue pill with the occasional use of Rhubarb & magnesia & a weak infusion of some bitter as Columba, answer very well. A careful regemen should be observed, both as to diet & exercise, a due regulation of the bowels and early hours constitute an essential part of the treatment As a general rule of practice, it may be stated, that when simple debility alone exists, simple tonics alone need be employed. For this purpose, when the habit is not too plethoric for the employment of a chalybeate the ammoniated tinct. of Iron may be employed. Chalybeates are generally preferable to bitters, when habitually used. The constant use of the volatile tinct. of guiacum was found beneficial in the hands of Dr Rush. The warm bath in winter & the Cold in summer exercise either in the Carriage or in the open air, on horseback are of service & should be attended to by the patient. Fatigue whether of mind or body should be carefully avoided. The passions of the mind and body should be constantly employed in cheerful pursuits & studies. When the swelling continues, the application of a flannel roller to the part will be highly useful.

The particular mode of treatment which each individual case may require during

the period of Convalescence, must obviously vary in its shades of difference: as much as Every Case itself varies, in some of the particulars of age, Constitution, temperament and habits of life. Perhaps Caute, should be the motto of every Physician & patient. Our remedies, to be effectual should be persisted in, not only for one year, but for many years.

I will now proceed to the second division of my subject namely Chronic Gout.

This state of Gout Consists in an inflammation & pain more slight irregular and wandering than in the acute form. Faint redness of surface, permanent distention of parts or Continual Oedema, difficulty of moving the joints. It is commonly associated with a morbid state of digestive organs, a languid and oppressed Circulation and much irritation of the system as irritability of temper despondency & irresolutenss of mind palpitations, a sense of lightness at the pit of the Stomach, Cramps in the extremities, unsound sleep. Skin sallow, dry & Contracted, bowels costive & in bad cases much general debility, wasting of the flesh, and a dry Cough. These symptoms are probably sufficient to Characterize this state of the Gout, and without giving a more detailed account of them, I will pass on to enumerate some of the causes of this state of Gout.—

Causes.

The Chronic form of Gout, may properly be considered

as a modification of the acute form of the disease. It is certainly the same disease, differing only in degree & with very little exception the same general pathology is applicable to both. The difference in the agency of the remote causes either, as producing the Acute or Chronic forms of the disease, arises out of the particular state of the Constitution If when the Gouty diathesis prevails, the system possess considerable energy and the action of the heart and arteries sufficient vigour, the acute symptoms will be produced by the application of the remote causes. If, on the contrary, langour and debility possess the system, Chronic symptoms arise. The want of accustomed exercise, and increased indulgence in the general habits, give a tendency to Chronic Gout, in the old. The neglect of purgatives and the too free employment of stimuli, produce inflammation indirect debility & nervous irritation. In examples that are most obstinate, the cause will be often found to exist in some visceral disease affection. When the susceptibility to the disease, is established, every accidental exposure, to wet or cold will give rise to the Disease. Distress of mind acts powerfully in keeping up the symptoms of the Disease. Dr Sandamore bears testimony to this fact and observes "it is often difficult to effect a cure while the feelings are anxious and much affected"

Diagnosis

In forming a diagnosis of Chronic Gout the Constitution and temperament of the patient his habits of living & age, together with a consideration of the remote causes, should be brought under our view

It might be confounded with chronic rheumatism. All the symptoms both general and local, being considered, it will be seldom difficult to distinguish them. Our opinion will be assisted by reference to the constitution of the patient, by the circumstance that chronic rheumatism is not preceded by the acute form, occurs much more frequently, than chronic Gout. It may be stated, as a general proposition, that the natural functions are more disturbed in Chronic Gout than in Chronic rheumatism. The character of the local appearances in the two diseases is an important point of distinction Although Gout in its chronic form is still more fugitive, and uncertain, in the part which it attacks, than when acute (& in this respect it approaches nearer to rheumatism) yet is much more disposed to attack the hands & feet than the last disease

Treatment

The principal indications in the treatment of the Gout in this form are to strengthen the system in general and the stomach in particular. For this purpose, a mild and digestible diet with gentle exercise, mineral aperients, with the occasional use of the mercurial alterative pills, are the most useful remedies. To relieve the distressing nervous irritation, Lactucarium, Stramonium, or Hyoscyamus are to be occasionally used. Dr Eberle speaks highly of a combination of Opium, Camph & nitre in such

cases. Dr Rush, in his observations on this state of the Gout laid down some principles of practice, which I will mention. He observes that after we have considered the climate, the season of the year and the constitution of the atmosphere and the natures of the prevailing epidemic. We should examine into the state of the pulse (which he elegantly calls the index of the system) and if we find marks of debility such as a weak quick & soft state of the pulse our remedies should be such as will produce a more vigorous & regular action in the system. For this purpose he recommends opium in small doses

Porter, ardent spirits, Ether volatile alkalies &c. &c. In cases when the stomach will bear bark it should be given in large doses. The local treatment should be conducted upon the same principles as formerly directed. The inflammation being removed friction & the warm bath will be eminently useful. I should be cautious, however, how I made use of stimulating medicines and should always be careful to know whether the symptoms of debility really existed before I employed them.

The third division of my subject comes next under consideration. I have proposed calling it the retrocedent Gout, & under this appellation I will offer a few remarks upon it.

Retrocedent Gout.

The disease is called retrocedent when there takes place a metastasis of the Gouty action from an

external part to some external organ. The part to which it is most liable to be translated is the Stomach. Sometimes it falls on the lungs, at others on the brain & occasionally the heart becomes its seat.

When it is transferred to the Stomach intense pain, anxiety, nausea & vomiting occurs When to the lungs. Symptoms of Asthma supervene. When the Heart becomes affected, pain in the cardiac region with violent palpitations & Syncope ensued — When to the brain, symptoms of apoplexy take place. All these translations are exceedingly dangerous.

Causes.

The most frequent cause that produces a sudden Gout is sudden vicissitude of temperature or cold in any considerable degree, applied to the affected parts.

Any thing which suddenly debilitates the System as inanition from bleeding & purging. Sudden passions of the mind as fright, terror &c &c

Indigestible food may be said to produce this state of the Gout. In this case the pain is rather dependent upon Spasm than upon violent active inflammation

Diagnosis

In order to obtain a direct discrimination upon the question whether the case shall be considered as one of Spasm, or inflammation our minds

should be thoroughly stored with sound pathological principles We will be materially assisted in our diagnosis by inferring to the exciting Causes and the temperament of the individual.

In an attack, purely spasmodic, considerable relief is afforded by strong pressure. The state of the pulse, as whether small & indistinct or strong & vigorous will greatly direct the judgment. The state of the skin and features are also important in forming a diagnosis. Dr Sydenham is of opinion that inflammatory action is the most common occurrence. Many of the inflammatory attacks, recorded by authors, have terminated in gangrene.

Treatment

Upon the discrimination, we exert in this state of Gout, hangs the life of our patient

Prompt & energetic means are essentially necessary.

If retrocession has been excited by indigestible food, the sickness that is present & the appearance of the matter ejected point out the necessity of an emetic. Ipecacuanha is well adapted for this purpose

If the pain be thus relieved, the Bowels should next be acted on by five or six grains of Calomel. When the Stomach will bear other medicines they should be given as Epsom Salts & an infusion of Senna. These purgatives should be repeated until a full effect be produced. If violent pain should continue after the Stomach has been cleared of its contents recourse of opium may be given without hesitation & frequently repeated until the pain ceases or is satisfactorily relieved — At the same time purgatives (although their effect may be delayed by the opium) should be continued. Pills composed of Calomel Colocynth & Soap answer very well for this purpose — & are easy of administration — If the disease has been excited by cold or violent stimuli we may expect it to be inflammatory — Accordingly if the symptoms be ~~marked~~ & violent Blood should be ~~frequently~~ freely taken from the arm & repeated according to the exigencies of the case. Should the Bowels be affected we are to proceed with equal promptitude & decision in the treatment of the affection as in Enteritis — With regard to collateral treatment something more may be offered — To divert the diseased action from the vital organ by remote excitement a great deal will be gained by sinapisms or warmth applied to the limbs as by stimulating fomentations by pediluvium &c &c A similar application to the Bowels will be of great service For this purpose the lotion of Alcohol and Camphor already mentioned will answer — In cases where the general powers

the circulation an weak cupping is preferable to general
leding from the arm. When symptoms of apoplexy take place, bleeding
the extent of the pulse will bear is the only remedy that can save
patient. If no rupture of a vessel has taken place it will
probably be effectual. If it has occurred the patient must die.
Cold applications to the head and blisters to the feet and ankles are
important auxiliaries in the treatment. When the lungs are
affected, Blisters sinapisms cataplasms & antiphlogistics according
the exigencies of the case are the remedies to be used. Patients la-
bouring under this disease cannot be too cautious. They should
consider their Bodies as made of Glass and always be careful of
over excitement. Hot rooms should be shunned. Calmness
of mind & serenity of temper should be preserved. By
the united care of mind & body according to the rules of the
Physician any threatning of apoplexy may be turned into a lesson
of safety, but those who relapse into Error must experience
those melancholy consequences that are too well known
to require a further description.

With this then I finish my inaugural
Dissertation but before I Conclude it entirely. I beg
you who have so eminently distinguished yourselves.

yourselves in teaching the Science of medicine in its different & extensive branches and from whom I am now about to receive the highest honours of the profession, to accept my most cordial wishes for your happiness; and be assured, that, for the many instances of friendship, you have, on many occasions shown me as well in a private, as in a public capacity, I shall ever retain a heartfelt remembrance.

"Dum juga montis aper, fluvios dum piscis amabit
Dumque thymo pascentur apes, dum rore cicadæ
Semper honores, nomenque tuum, laudesque manebunt."

An

Inaugural Dissertation

on

Cholera Asphyxia,

Submitted to the inspection of the

Trustees, Provost & Medical Faculty

of the University of Maryland.

by William T. Morgan of St.

Mary's Co. Maryland.

March 4th 1833

To

Nathaniel Potter M.D.

Professor of Theory and Practice of

Medicine in the Maryland University.

For his unrivalled talents, and

unbounded reputation as a

Learned and Physician this

small production is respectfully

by dedicated by his friend.

The Author.

To

Nathan R. Smith M. D.

Professor of Surgery in the University of Maryland. As a gentleman he is beloved, and as a Surgeon he stands unsurpassed.

For the many favours which he has bestowed upon me whilst a pupil and member of his family, and for his celebrity as a cool and dispassionate Operator, this Thesis is respectfully dedicated by his friend and pupil.

The Author.

Introduction

The time when a man takes upon himself the responsibility of a profesion like this, not only shows his desire to allevate the suffering of his fellow creatures, but also to capacitate himself to defend it when attacks are made upon it by those persons who have not kept pace with the progresion of Medical Science.

In submitting this essay to the consideration of our enlightened and honorable Medical Faculty together with the Trustees, I cannot help expresing the feelings which pervade my mind on an occasion like this, which calls forth from us a dispostation on some subject which it is calculated will do honour to ourselves and Preceptor.

When we consider how many have fallen short in attempting to do that which was required of them; how can it be expected otherwise than we

. shall feel incapacitated to do that which is so vigorously imposed upon us. But we must ground our hope in reflecting that the day is not far distant when some one yet dormant, may spring forth from obscurity and shine like a star in the firmament of Medical knowledge. —

In selecting a disease in which it might be expected for us to advance something new, or even interesting. We cannot help feeling at a loss when we know that the very disease which we have chosen has occupied the pen of innumerable persons of the profession, of the highest eminence. Therefore knowing it to be the duty of every medical student to bring forward and essay on some subject. the following one has been my selection:

Cholera Asphyxia

Various appellations have been given to this unmanageable disease, and indeed to enumerate them all would be to do that which is neither interesting to the reader or compiled, and only taking notice of that which is never to benefit or aid us in establishing those principles which are to direct us towards to the nature or proper treatment of this much dreaded disease. I have adopted the one above because I deem it to be the most appropriate as applying to the manner which the disease makes its attack and likewise of the great mortality which it has made in every region of our country.

The Cholera is a ~~disease~~ of no little importance to be understood by the members of the Profession generally; and therefore if we have not an opportunity of making anatomical observations, it should not escape our deep reflections, as it may perhaps

steal upon us like a thief in the midnight hour, when we are unarmed and unable to stand as sentinels, to administer relief to those invaded by the enemy. —

When we see a disease like this which is calculated to spread gloom, and consternation in those regions where, before, peace and contentment prevailed. How can we thaw otherwise, attempt to render ourselves capable of meeting such a transition from mirth gayety and comfort to one which may perhaps bring desolation in our lands. Consider then for a moment the number of souls that have been precipitated into eternity before they were aware of their situation, and this will prove an ample stimulus of necessity for for assiduous application.

Perhaps it may be expected because I have chosen

Sen Cholera as a subject for my Thesis, that it is my intention to trace the disease from the earliest accounts, to the most recent. But I design to give, only in cursory manner the most recent description of the symptoms that characterize the disease in its different stages; the causes, Pathology, Treatment &c.

In treating of this disease it will be necessary to notice three Stages. 1st Premonitory, 2nd Spasmodic, and thirdly the blue stage, or Stage of Collapse.

Symptomatology of the first stage, or Stage of Premonition. This variety is accompanied with great diversity of symptoms, though the following which I shall enumerate will generally be sufficient for the Physician to satisfy himself as regards the diagnosis. The signs which indicate the approaching malady are, considera-

bly

ble precordial oppression, some degree of stupor, nausea and occasional vomiting. Diarrhoea is generally the most constant precursory symptom for several days previous to the attack, accompanied with a disagreeable sensation in the bowels, lassitude and general oppression. This is the general course of the disease, as respects the symptoms previous to the occurrence of the paroxysm; though sometimes it differs widely from this description, there being scarcely any warning of the desolating malady, before it shall have made its attack and have terminated the scene of life.

Symptoms of the Spasmodic Stage. In this variety repeated vomitings supervene, the evacuations become frequent, accompanied with great prostration and sense of constriction in the bowels. Irreg-

ul and spasmodic contraction seize violently upon the inferior extremity, first beginning in the Gastrocnemii and in short time extending to some of the muscles on the back part of the thigh. These Spasmodic actions together with the repeated vomiting and alvine dejections proved a source of great torture to the patient. The evacuations are composed at first exclusively of the substances contained within the Stomach and intestines; soon they assume a Pathognomonic character of the disease, consisting principally of a whitish, aqueous fluid somewhat analogous to a decoction of rice or the liquid discharged by the operation of Paracentesis. Percussion of the abdomen reveals a dull, heavy sound in comparison with the sonorousness of the abdomen in individuals attacked with Typhus. This difference is explained by the enormous accumulation of fluids

in the intestinal canal.— The flow of urine appears to be entirely suspended, the secretion does not in many instances go on at all; necroscopic observations unite with the Symptomatology to prove the complete vacuity of the bladder.—

The Spasms now rapidly assume a greater degree of intensity, passing successively and in a very short time, from the Inferior to the Superior extremities, the abdominal muscles, and lastly attaching the Thoracic and Diaphragmatic muscles. Very rarely does Spasm seize upon the muscles of the back & loins. The Spasms are generally of the Clonic kind, though sometimes they assume all the characters of Tetanus. Our Venerable Dr. Potter mentioned one case that came under his notice, which put on all the appearances of Tetanus, the muscles of the Jaws were spasmodically contracted, and to an

inexperienced Practitioner might have readily been mistaken for the disease previously mentioned.

As the Stage of Collapse advances, the countenance becomes haggard and expressive of great anxiety; the eyes are sunken and surrounded by a livid circle; the pulse sinks and often we can distinguish no pulsation in even the Radial artery. The blood appears to be moving from the heart, with almost one fourth less velocity than in ordinary health.

Respiration is somewhat difficult; the air expired is destitute of warmth; the extremities are cold and insensible in some degree to stimuli. The skin of the hands is corrugated, inelastic and presents the appearance of a part macerated in water or from the application of a cataplasm. The patient expresses great desire for cold drinks, and when given him drinks with avidity. The tongue and

mouth, are moist and cold. The voice is feeble, and sepulchral.

Towards the fatal termination, the countenance presents a cadaverous appearance; the surface is cold and covered with a clammy perspiration; the patient lies in complete unconsciousness of his condition, he appears totally indifferent to what is done for his relief, and although in this condition, if roused, will answer questions in a rational though in an indistinct manner. If death occurs it generally takes place in the course of twelve, fifteen or twenty six hours after the attack; sometimes life is extended to a much longer period, even three or four days and often a week before the case terminates fatally. Probably on account of the system's taking on an inflammatory action, which acting as an artificial stimulus seems

to sustain life until the present time.

Causes. These are divided into the Predisposing and exciting. It is evident that the opinions which have been advanced respecting the true cause of this disease, must be founded upon hypothetical speculations; for as to the nature of this cause, it must be acknowledged that we have not as yet arrived at any very conclusive data respecting it. — Many of our learned, and most intelligent Physicians and Surgeons contend for a Specific cause. Brouissais and his disciples locate it in the stomach, and intestines. (Gastro-enteritis)

Whilst again others with equal confidence, tell us that Malaria, is the fons et origo.

And some others of the profession apart with redoubled assurance, that all are wrong and that it has for its origin Animalcule floating in the Atmosphere.

But to arive at the most plausible, and az I conceive the most correct view of the subject az founded upon the facts, which are well established, az sustaining the noncontajious character of the disease in question, I shall therefore advance those reasons which I conceive to provd it - in the most decisive manner, regarding therefore this disease to originate from an epidemic constitution of the atmosphere.

In the first place if it be not an epidemic disease, why does it obey the laws of all previous epidemics. Take for example Typhus Fever which prevailed in eighteen hundred & fourteen, and it will be perceived that the history and progress are similar in every respect. The only essential dispimilarity being that they are two different diseases, but both produced by a noncontagi

ous

ous cause. What persons does this disease appear to concentrate its greatest degree of violence upon? Is it not upon those whose constitutions are strongly predisposed by excessive stimulation, or by being enfeebled from any cause which is calculated to impair the vigour of the constitution. And are not persons who live in particular localities and whose sustenance is of the most impure kind, more susceptible of this disease than those who walk in the highest circle of life and who breathe the purity of our atmosphere, and live on the best productions of our country. I may answer in the affirmative without reflecting for a moment. We would ask whether there is any contagious virus which is now contained within the covers of a nosology, has any respect to persons? The

answer will be no. Take Variola as an example, and it will be perceived that it has no respect to persons, occurring equally among all classes, from the first in society to the most abject of the human family. Do we see that Small pox requires an evident exciting cause, such as articles from the vegetable kingdom. I think not; and upon this one fact I think we may with safety advocate the non contagious side of Cholera. Again, all of our contagious diseases effect the skin, which is certainly in strong opposition to the contagious nature here.

Physicians have inoculated with the blood and different secretions of the body, and never in one instance has the disease been propagated. They have inhaled the patients breath with impunity.

One very conclusive argument may be founded upon the Physicians and nurses of the sick, not being more susceptible of the disease than those persons who keep aloof from them.

Cholera has been known to make its attack upon large cities, and extend its deadly influence to various parts in the course of one night. This certainly does not seem like contagion, for we are led to believe that this is so much the character of all epidemics, that it would be fallacious in the highest degree if we were to express a contrary opinion. Much more might be said in favour of non-contagion, but I think enough has been stated to prove the point which we have attempted to support.

As for attempting to make this disease depend upon Gastro-enteritis, it is folly, because if it did

depend upon that as a cause, it would terminate in so short a time, and would rather act as a supporter for a certain time than as a destroyer of vitality in so short a period. We would prefer saying that this inflammation when it does occur, is rather a consequence than a cause. As for referring the disease to a miasmatic origin, it is manifest that it is a deception. Theory. For it is well known that miasmatic diseases do not prevail equally at all seasons; they are more prevalent in warm weather and in warm climates, than in those of a diminished temperature. Cholera occurs with the same rapidity in situations covered with snow, as it does where there is none, and even mountains of five thousand feet high offer no obstacles to the progression of this disease. I might go on to make some observations on the theory of animalcule

but I deem it unnecessary to consume time with such unfounded and visionary theories.

Pathology: We are sorry to say that Pathologists are not unanimous in their opinions upon the most important and essential part of the disease. The most reasonable and well founded opinion in my belief is that of functional derangement of the ganglionic system of nerves. As is proven by the depraved state of the nutritive and secretory functions. The capillary vessels are every where thrown in a state of commotion, from the morbid action which is transmitted to them through the medium of the great Sympathetic or ganglionic system of nerves, which resides over the functions of nutrition and secretion of the animal economy. If this system of nerves are only partially diseased, its functions will be exercised in a diminished manner and

a mild disease will be the result. If completely paralyzed by the depressing cause, its functions must cease and the case be reduced to a hopeless one.

Post Mortem examinations detect but little inflammation of the stomach and intestines; the folds of the mucous membrane are often found considerably thickened and covered with a cream like substance. The Duodenum sometimes presents marks of inflammation, which no doubt depends upon the vitiated secretion which passes from the Liver and Pancreas into this part of the intestines. The other part of the alimentary canal is generally found paler than natural. We may account for this circumstance on the assumption that the rice water discharge which takes place from the mucous surface

is a sort of depletory measure, that it is the serous portion of the blood. Invaginations of the intestines are sometimes observed, showing that the spasm of the bowels must be extreme. The Liver, Spleen and Pancreas are generally found free from engorgement.* The gall bladder is frequently observed to be distended with a dark, grumous fluid, which is bile of a vitiated character.

The large arteries are not unfrequently filled with blood, the color of venous. The explanation which I shall give of the arteries containing blood is rather trivial, but I conceive that it is the only manner which it can be satisfactorily accounted for. The Cause which produces cholera, seems to concentrate itself so directly upon the ganglionic nerves, that their functions are as it were abolished, and consequently those nerves being the proper nerves of the arteries must produce a

* It is observed by some that the foregoing organs are much congested, but I have not seen them in that state

corresponding inactivity of those vessels. They have not sufficient tenacity of life imparted to them by the nerves, and therefore are rendered incapable of propelling onwards their contents into the veins. It is stated that lesions of the brain not unfrequently occur, and are regarded by some as primitive and essential. But these lesions of the brain, on the contrary, may be regarded as secondary and accessory, since the Intellectual faculties remain in a perfect state of integrity during the whole period of the disease, or at least retain them until the latter part. The Thoracic organs are generally found to present no unnatural appearances. Cholera subjects soon enter into a state of putrefaction; indeed when brought in the dissecting room some time after they have been interred, the flesh will not admit of being

raised by the common dissecting forceps.

Treatment.

In the management of this disease, we should always have in consideration the following indications: To equalize the circulation and obviate local determinations; for our primary object in the onset of the disease is to have an eye to the temperature of the surface; to regulate and administer to the various organs that may be oppressed, to cheer up the depressed condition of our patient, and in a word to keep his nervous system quiet and free from all mental agitations.

When called upon to treat the premonitory symptoms, we may say with confidence to ourselves that there is no remedy which is more calculated to succeed or upon which

we can place so much reliance, as upon Subm. Hydr. combined or not with other remedies. It may be often used with advantage combined with Opium. Some prefer combining Calomel with Sulpate of Morphia and Pulvis Rhei in the following proportions: ℞. Submurias Hydr. ℈i. Pulvis Rhei, ℈iv. Sulp. Morph. 19c.

This is to be divided into four equal powders, one to be taken immediately and followed in the course of six hours after with ℥i of Oleum Ricini. The dejections will be probably found unnatural in their appearance at first, and should they continue so we shall find it necessary to repeat another powder in ten or twelve hours after the operation of the first one has ceased, and follow its administration with the same as in the former case. This treatment should be continued

-ned until the excretions assume a natural appearance. Some recommend us to begin the treatment by giving the patient from a half to one drachm of Calomel, and follow it every three or four hours by ten grain doses of the same medicine. This plan of treatment no doubt will answer well in those cases that put on a stubborn character. But when the disease does not put on so desperate an aspect, I think we may with safety give it in smaller doses, say from ten to twenty grains at first combined or not with Gum Opii, and followed in six or eight hours after by some purgative medicine. Now we may commence with Calomel in small and repeated doses.

Venesection stands high as an appropriate

remedy in the stage of aggression, though like all other remedies having been used indiscriminately has not sustained the character it had gained in the first instance.

When it is used with caution, there is scarcely any doubt but that it will prove to be a remedy of considerable utility. In cases when the pulse is active, and the patient upon whom it is to be performed is one of a vigorous habit, we may resort to it with implicit confidence. If on the contrary, he is a person of debilitated constitution and his pulse does not earnestly demand it, and we resort to the operation of bloodletting the life of our patient will be hazarded without rendering any satisfaction to the Physician or benefit to the one we design it for. By resorting to a proceeding

of this kind when the patients system is so weakened already, that he may thereby be so dangerously prostrated as not to have energy enough to bring on reaction.

Emetics may generally be prescribed with safety whenever there is feeling of oppression and sense of weight in the region of the stomach, or we have reason to believe that the offending cause still exists in the stomach. The good effects of Emetics are not restricted alone to their evacuating quality. But they appear to act by breaking the chain of morbid action, determining to the surface and equalizing the circulation, or in other words relieving congestion. The emetics mostly used are, Pulvis Ipecac, Mustard and Muriate of Soda. The latter has been

preferred by some on account of its prompt operation and so soon as it has ceased operating that the nauseating effects go off.

We should not loose sight of external warmth, even though the patient may not be much prostrated at the time; for by keeping the temperature of the patients surface uniform and not suffering the warmth of one part to become less than another, we shall probably be able to diminish the intensity of the disease.

In the treatment of the Spasmodic Stage, our remedies do not differ widely from the preceding, as our chief confidence is placed upon Calomel and Opium, in doses of four or five grains of the former with a quarter to one grain of the latter every two or three hours.

Camphor and Ammonia are remedies which have reigned for a time triumphantly in this disease. They no doubt are remedial measures which deserve our strict attention; and perhaps they have done as much harm and have been as empirically used as any medical remedies under the covers of a Materia Medica. When used as curing directs, they may achieve an indelible reputation. But if used as all the nostrums are, in every state of the system those articles must prove equally pernicious.

To alleviate the cramps of the extremities, in addition to the use of Mustard baths, friction with Spirits of Camphor or dry friction alone will often accomplish the indication.

To remove the exhausting and protracted diarrhoea which exists throughout the disease, injections made of starch to which is added Laudanum, or a decoction of Oak bark as preferred by some will often evince gratifying results. The Vapor bath is sometimes resorted to with benefit, dry vapor is preferred and is much better than a recourse of moistening the patients clothes.

When we reflect that in the stage of collapse, little or nothing can be done which is calculated to hasten reaction; and that consequently it is nature's efforts to a certain degree which is to cause reaction. When we are confident of this fact, and we know that by throwing medicine in the systems of those invaded by the disease will still more depress the

vital powers. We certainly then ought not to persist in such a practice. Medicine to a limited degree may be used, together with other adjuvant measures directed to the surface. Now it will appear evident to administer medicine in this stage as some are in the habit of doing without weight or measure, would be utterly unavailable and futile to say the least of it. The Viz medicatrix naturæ would have to exert herself more powerfully, and of course by a perpetual repetition of remedies she must become languid, feeble and broken down. The anxious feeling, and untiring zeal with which she has so unceasingly experienced from the first manifestations of life in utero, and which she ever continues to hold until an everlasting dissolution shall

have taken place, accounts fully for our existence whilst surrounded by so many causes which are constantly acting to disarrange our delicate organization.

All that I shall say respecting the remedies necessary in this stage, will be said in few words. Calomel may be given in small and repeated doses in combination with opium or Morphia, but according to my observations opium is an improper remedy in this stage or even in any of them if given to a very great extent. For it seems to kill the nervous system by its narcotic excitations, and unless judiciously managed we have no right to resort to that article throughout the disease. But as I have before stated it is more applicable to the early part of the disease.

Rubefacients are useful auxiliary measures, applied over the region of the stomach and to the extremities. The patient may be allowed water in small quantities and even ice, but we should be very careful how we allow the patient ice from its great tendency to diminish the animal temperature.

As for the Prophylactic treatment, we may address our contemporaries in finite terms. Live temperately, abstain from vegetable substances except one or two kinds; avoid vicissitudes of temperature, let your change in clothing be adapted to the weather & in a word observe prudence as your guide.

An
Inaugural Dissertation
on
Bilious Fever
Submitted to the examination
of
The Provost, Trustees, and Medical Faculty,
of the
University of Maryland
For the Degree of Doctor of Medicine
By Richard B Burgess
of Maryland
March 1833

To

Doctor Benjamin Lee

of Prince Geo. County

The following pages are respectfully inscribed

as a testimony of gratitude by his

friend & Pupil. The Author

Bilious Fever

From a retrospective view of Medical history we find the disease termed Bilious Fever to have existed at periods remote, a subject which has constituted a wide and extensive range for investigation, a fertile theme for the employment of the pen of genius, a theme which appears to have engaged the publick attention in all Countries and in all ages since the earliest era of Medical Science. When I reflect upon the many learned opinions that have been promulgated the diversified and ingenious theories that have been advanced upon this disease I almost shrink from the duty before me, sensible of my own limited research and practical observations. Yet I flatter myself with the hope and wish that in its execution I shall receive some degree of indulgence from the candour and liberality of my Readers— To attempt a perfect and detailed history of this disease would carry me beyond the limit I have prescribed to myself in this dissertation, and if I had the wish I do not flatter myself that my descriptive powers would be adequate to the task, requiring as

it does more ingenuity, candour and compassion than perhaps falls to the Lot of any Individual for notwithstanding the great difficulty and almost impossibility of obtaining and collecting by the most untiring zeal and assiduity all the information requisite for an attempt of the kind, yet so natural the propensity so great the desire in the minds of Medical Men to establish Theory as the first and leading principle and to conceal truths and practical observations and to apply them to such principles that we never or it is extremely rare indeed to find a liberal and perfect history of any one disease entirely devoid of its influence. On this subject however it becomes me to speak with modesty and caution. But surely to indulge theoretical speculations on any point is unscientific and philosophical, and it is likewise certain that every Practitioner must adopt an empirical practice when not based upon some Theory. This can and will not admit of refutation by the most illiberal: it is clearly and sufficiently manifest to every pupil from the commencement to the termination of his scholastic career, so

it is in all anatomical investigations and surgical operations which at first sight would and does appear entirely mechanical we behold the advantages, the fascinating influences of theory. Why then should we be astounded when we see medical sciences so much involved in scientific points, so replete with the principal decisions of cause and effect, of reasoning and induction But many and obvious as are the advantages and improvements that have been made in the practice of medicine from a theoretical system, many and equally obvious also are the disadvantages and erroneous doctrines that have originated under the dark cloud of mystery that attends it, particularly in disclosing to our view the seeking, the nature, the symtoms and treatment of all epidemicks diseases. And now fully persuaded of the inadequacy of my abilities to the attempt and simply convinced of the difficulty and censure under which I should labour in indulging an effort of the kind I shall refrain from or rather avoid entirely all such reasoning and disquisition upon the subject. I shall therefore

from a sense of self propriety and distrust speak with caution and diffidence; as I speak not from my own observations, but feel myself indebted to the fabricks and ingenuity of others for the knowledge and information I have acquired in relation to the present subject. I shall therefore depart from the genral order of medical history by avoiding theory and by detailing the disease upon the principles and observations of others as far as they accord with my own, giving at the same time all the information I have derived from the disease as it has fallen under my own immediate cognizance, in connexion with its systematic history as detailed in the pages of its several Expounders, and to examine it under the several preceding and especial heads— first its rise, course and Termination; secondly the symptoms of the disease as it usually makes its appearance in the forms of Intermitting and Remitting Fevers, and thirdly and lastly I shall make a few observations in relation to its causes. I shall then in the first place proceed to the consideration of its —

Commencement &c

In attempting to depict the usual rise and general progress of this disease in its common form together with some of the diversified and anomalous appearances which it may under particular circumstances present itself. It becomes me to hazard a few, brief and cursory remarks upon those morbid affections which generally occur in June and the two succeeding months and which appear to antecede the first appearances of the Autumnal Epidemic and to enquire as to whether or not they arise from the same or different causes. The diseases to which I allude and to which I invite the attention of my Readers are those which are generally known by the familiar name of Summer or Intestinal Complaints, affections which subject the patient to more real distress that what is attached to those of a more serious nature and of more real moment. At this season we generally see persons more or less disturbed with frequent and copious discharges of a watery liquid of a feculent character associated with more or less griping without tenesmus and most commonly without

vascular excitement, but occasionally when the disease has been of some duration, slight febrile action is not unfrequent, particularly in the afternoon the pulse becoming quick and small, the skin dry and harsh &c The evacuations vary much both in frequency and appearance. They sometimes present the aspect of rice water, sometimes slimy mixed with more or less pus matter &c thus abundant and aqueous occasionally dark and resinous giving rise to much debility. Frequently the reverse of the above obtains, such as painful gripings and excoriations of the intestines with frequent small and unsatisfying evacuations attended with much tenesmus; the dejections consisting at first principally of mucus mixed with blood in which is contained little or no feces in several cases however they present a different aspect, becoming dark, pungent and offensive in which state the surface of the Body is moist and clammy, the countenance expressive of much distress and anxiety &c. An opinion has been advanced by some physicians that these above affections derive their origin from the same general cause which predisposes the system to the true Bilious or Autumnal

Fever. But unwilling to concede entirely to this opinion and to found my only ground of conviction upon the bare authority of Others and constrained from motives unworthy detail not to subscribe to this belief must attribute their primary origin to other and far different sources. I mean the debilitating effects of the Summer's Sun this should I think be viewed as the remote or predisposing cause. there are others which may be called into action and which we may denominate exciting such as irregular and unwholesome diet, especially those articles of an irritating quality, in connexion with the acrimony of the vast quantities of immature Fruit which are consumed at this time, also obstructed perspiration from exposure to a cold and humid atmosphere and whatever may tend to increase the irritability and vitiate the natural secretions of the Intestines.

To the latter of the above causes falls the greatest share in the production and continuation of the diseases termed Cholera Morbus, Colics, diarrheas and Dysenteries. Thus it is that the foundation of all these disturbances depending upon a morbid excitement of or

irritation located in the Intestines, are laid
I am persuaded as well as borne out by the
authority of many respectable Physicians at
the head of which rests the bright luminary of
our University, Professor Potter's whose medical
attainments are unlimited, to suspect these
as the principle agents in determining affections
of the kind to the above mentioned organs, though
influenced no doubt by the same cause as
Bilious fevers, as is so often manifested in
Dysentery. The first then of these diseases being
the one called Cholera Infantum I will briefly
notice. Its existence in the system is indicated
by slight diarrhea, remitting of some days duration
occasionally attended with tormina and tenesmus
accompanied by small and painful discharges
of a slimy offensive and irritating some slight
intumescence of the abdomen, moderate and
occasional emesis. The intestinal evacuations are often
intermixed with streaks of blood. This suggesting the little patient to much anxiety and
annoyance and consequently the sufferer not
unfrequently falls its victim. The Liver stomach
and intestines are in this disease greatly impaired
in their functions. The Brain evinces a high
state of morbid irritability in fact there appears

to be a predisposition to a preternatural determination of blood to this Organ, Hence follows the propriety and necessity of avoiding the too frequent use of opium and all articles of a stimulating nature in the incipient or active stage of this malady. In relation to the above mentioned cause that there are others which tend to the development of this disease. a mention of which I will briefly make I mean the irritation excited in the system during the period of dentition. There is another I allude to the vulgar practice of Mothers of feeding their offspring upon coarse articles of diet, the child perhaps not more than two or three months of age. This practice is exceedingly injudicious and improper and should therefore be deprecated unless called into application by necessity. Nature has her laws and when disturbed in likemanner will these interruptions be manifested. Diseases of a similar character frequently occur to adults, such as Colics Diarrhoea and Dysenteries, characterized by phenomena too prolix for treatise here to specify and as the extent of this dissertation will not admit of further details I will in a cursory manner speak of Dysentery being the

the last of the Summer diseases to precede the Heralds or primary indications of Bilious Fever. This disease is manifested by certain prominent symptoms which serve to characterise its approach, such as, Languor, drowsiness, anorexia, slight chills alternating with flushes of heat, succeeded in a short space of time by moderate febrile reaction, frequent pains in the abdomen, associated with tormina and tenesmus, with frequent and urgent desires to evacuate, but often ineffectual but generally accompanied by discharges of a slimy or aqueous fluid intermixed with streaks of Blood, sometimes of a darkish aspect & extremely vitiated affording an offensive odour, at times the tongue is brown, rough and dry, at others clear, smooth and humid but assuming changes as the disease varies. This disease is attended with much debility. Often we discover it to present itself in the form of an Epidemic, disseminating its influence in all situations owing to some peculiarity of the atmosphere. But in a limited point of view it is sporadical or partial, extending itself to particular situations and persons, to those most exposed to the vicissitudes of weather and from reverse of fortune confined to a low, irregu

lar

and innutritious regimen. It prevails about July seldom spreading and but rarely at this period does it assume a pestilent or malignant form But on the contrary in autumn when influenced by the same cause as Bilious Fever it there presents itself in its most extensive range diffusing itself through whole families and vicinities exciting disease, creating ravages and frequently proving mortal to many and possessing all the characteristics of a veritable Epidemic. It is generally connected with diseases in which the Liver is principally implicated more especially with Bilious Remitting Fever. It is of an highly inflammatory character, but of a bilious type nature, varying in severity from the mildest synocha to the worst grade of Typhus——

Having now taken this practical view of the preceding affections it remains that I should hasten on to the consideration of that disease which is the object of this discourse——

As the Summer is now about declining, the season becoming more oppressive, and the weather warmer and drier, there are certain prominent characteristics discoverable by which the existance of this disease is indicated and recognised in the human organisation (vis-

An universal Languor and debility and oppression is observed; a sense of uncomfortable and disagreeable weariness of the whole Body is experienced The liveliest and gayest dispositions are depressed and gloomy. all desire for food is nearly or entirely dissipated which especially excites the lamentations of the Luxurious. Many complain of their pursuits and occupations at one time conducive to pleasure and interest now irksome and fatiguing. Rheumatic pains occur to those predisposed frequent or almost continued pains in the head, uneasiness and constipation of the Bowels &c. Scarcely indeed will we find one Individual who will be entirely free from indispositions —

These then are the most prominent symptoms which constitute the first indications of the approach of Bilious Fever. From this period I mean the last of August we meet with some few and scattered cases of Tertians in those predisposed by debility and excessive Labour under an exposure to the meridian rays and above all subjected to the morbid effects of low, damp and paludal situations. thus brought under the reach of the predisposing cause

These appear not to awaken much fear or to excite much attention, but are permitted to assume a gentle progress uncontrolled and unembarrassed by remedial agents. But they are the precursors of the Lost that now commences to put on an universal and general character. About the first of the Autumnal Months the disease becomes prevalent far and near and though greatly agravated and nurtured as it were, in the Habitations of the Poor and Miserable, yet its visitations fail not to find access to those of luxury and abundance. Now it is that the causes appear to extend and exert their influence simultaneously not in a regular gentle and successive mode of invasion, but as it were by one conjoint effort and combined agency, diffusing their noxious influences in almost every place, passing through whole vicinities particularly those that are thickly populated. in fact in a short period there is not an Individual scarcely who will be beyond their power—

Thus and then it is that the wants and afflictions of the poor, infirm and oppressed are excited and increased, their constitutions to writhe and languish under the oppressive

hand of Pestilential domination. except some few whose systems by provision of Providence or some idiosyncracy of constitution are rendered insusceptible to its deleterious influence. The disease now advances in a slow, regular but determined form, augmenting in violence and energy awakening in the breasts of its subjects the most unpleasant and profound feelings of awe and apprehension and arousing on the part of the Practitioner the most vigilant attention, the most energetic exertions and the most decisive judgement.

The paroxysms of the disease now commence anticipating until tertians become converted into quotidians and occasionally into the more common and continued form of Remitting Fever, more especially when influenced by whatever tends to increase the plethoric state of the system or by the supervention of some internal inflammation. But few adults fall its victims at this period, yet some young and tender persons from some peculiar state or imbecility of constitution most unfrequently perish, thus incapacitated to endure the poisoning influence of this malady. The disease after having made this

quick and rapid progress, begins to assume a still milder and more favorable form arising no doubt from the frequent showers of rain which take place at this season of the year, thus cleansing and removing from the soil and air the great cause which engenders and gives rise to the all prevailing pestilence. Here then the sick begin to convalesce to become invigorated by the benign and refreshing power of hope, by the refreshing gales of salubrity, their imaginations to brood no longer over the causes and consequences of disease and their attentions to be directed to objects of a more pleasing and hopeful character.

But these falls of rain which at first seemed to moderate the disease yet act like a secret poison, for when the misty clouds have vanished, the sky assumed its wanted serenity and the glorious orb of nature to diffuse and impinge his penetrating rays upon the vegitable organisation now in a state of humidity, appear to add a new vigour to the raging pestilence, to give a new birth to those noxious substances from which are engendered and exhaled those deleterious and baneful agents which are so

energetic, so influential in giving further progress to the Calamity. Again it is that the disease commences its ravages in the shape of tertians but in a short space of time the scene assumes a change; And now it is again that it commences to anticipate till tertians become converted into quotidians quotidians into quartans and so on in a regular and successive series, and occasionally peeping into the congestive sometimes the malignant forms. The latter of which however is of but seldom or unusual occurrence and when it does exhibits the most dangerous and appalling aspect, closing through its course in a short space of time and if not subjected to a most vigilant and grounded attention and treatment, exacts its mortality about the third or fourth paroxysm ——

The disease having now passed through its usual and most common course of invasion and at this period being the last of October we again become reanimated and refreshed by the genial power of hope, now it is that the disease begins to decline and to seek its termination, affording now further grounds

per apprehension. But again should the above mentiond persons prove dry and sultry there is frequently a renovation of the Epidemic it now prevails in low, damp and paludal situations in a much more aggravated form, but unfrequently becoming once more miniscal; if so, it is at this time that we may expect to meet with much difficulty and opposition in arresting and preventing its extension away, now for the first time may things seem to tend to its propagation for notwithstanding the many organic derangements, the publicity of constitution subsequent to its first invasion from which but few ever recd, all of which conspire to oppress our exertions and aggravate the disease, yet there being many persons who were not accustomed to submit to a confinement from previous indisposition but having been brought to a low state of predisposing weakness now become the first subjects of its oppression. The fever now takes an eagle flight from its more usual course of advance, passing rapidly into the form of remitting fever. The continued violence and energy of which brings and leaves with it the most serious effects. The phlogistic

de[illegible]thesis now runs to its acme or highest point. passing occasionally into the malignant form. in some and indeed in many instances the cases are of so aggravated and dangerous a character, and of a nature so greatly resembling to that devastating pestilence termed Yellow Fever as to have led some Practitioners to the inducement to identify them and not without plausibility as it is sufficiently manifest that yellow fever is nothing more than Bilious in a more dangerous, aggravated and determined form. The above description answering to this form of fever I mean remittent, it will not be considered improper in me to enumerate and portray some of the leading characteristics, although to be considered in another part of this Essay.

The conjunctiva of the eyes present an icteric or yellowish hue, some irritability of the Stomach manifested by nausea and vomiting, the ejections consisting principally of black or green and viscid bile. The alvine evacuations are of a similar consistence and aspect great oppression with evident derangement of all the organic functions. The pains in the head

back and extremities previously mentioned become greatly augmented. the eyes sometimes red and watery, the tongue becomes coated with a dark or brown fur, the respiration greatly oppressed. the nephritic functions are greatly impaired. the urine being diminished in quantity. a sense of tension and heaviness is experienced in the Epigastric and Hypochondriac regions, the pulse is full and vigorous, often hard and tense. Sometimes delirium is an early attendant, the surface excessively hot and dry. This form of fever is particularly inclined to assume a highly dangerous and malignant character, especially in warm climes. For the above state the disease is very formidable and perilous, exciting the tenderest feeling and awakening the deepest sympathy, requiring the most guarded attention and decisive judgement, the most vigilant and unceasing care on the part of the Practitioner. Many fatalities occur in this form of fever. the greatest seems to be with youth and less with persons of colour though more subject to exposition, call and receive less attention. The disease continues its violence in this manner till there is a change of weather

which usually takes place at this period I mean the last of October, when our Towns and villages, our neighbourhoods and streams became fanned by refreshing and invigorating breezes from and to be visited by the chilling blasts of the North; How harmonious, how delightful the scene of change. Now it is that our constitutions become reanimated by the salubrity of the season, the depressing emotions of sorrow and apprehension to be dispelled, and our bosoms to exult, to glow with ardour, in the expulsion of the enemy that excited so much commotion and committed so much rapine; and removing from our Country those vitiated airs which has been the vehicle of the destructive agent. And now instead of dews, frequent frosts are observed to ornament the surface of our Forests, from which wished for and happy period, Bilious Fever begins to be dissipated to find its destruction and termination but frequently leaving behind it as manifestations of its former prevalence, certain affections, such as obstructions and indurations of which the spleen is the most frequent, together with diminished obstructions of the Liver, thus giving rise to the disease termed

Jaundice, also as traces occasional oedematous swillings of the feet and legs, Dropsy and disturbed constitutions.

Having now finished the first points of discussion I will proceed after these few and unsatisfactory remarks to the examination of the second head — I mean the symptoms as occurring in the forms specified in a preceding part —

In attempting an examination and delineation of the varied forms and many appearances of which the characteristics of this disease may assume according to particular circumstances and as modified by weather, Locality and constitution. It is difficult or I may with more propriety say almost impossible for One inexperienced or limited in practice and who never witnessed their diversity of character to draw any conclusions from or estimate and appreciate their true nature and effects. There is no form of fever which they may not adopt from the mildest quartan to apoplexy. No mark of disease entirely foreign from their nature under which they may not lie concealed, so versatile are the appearances which they may and do manifest. How then can it be expected.

or is it possible for one possessed of youth to
associate and portray with precision and
accuracy the many phenomena and various
actions which may take place in the
different periods and stage of this disease
The febrile action has adopted such a contrari
ety and change of character as to have led
some Practitioners influenced no doubt by
the above considerations to imagine them
different species of disease. But as the extent
of this essay is limited and as it would require
an identity of Language to paint them in all
their forms and phenomena. I shall attempt
a brief history of the symptoms as they most
usually appear, observing such deviations from
the general order as are of importance and
especially such as should indicate a change and
difference of medical treatment——
The first then to which I would advert, are
the premonitory or those which manifest a
predisposition to any disease, characterized by
the following phenomena—— Drowsiness, want of
appetite, restlessness Languor and debility, a
sense of oppression and anxiety——
The system being brought to a state of morbid
action has a tendency to take on various

diseases. for several days there are frequent Lancinating pains in the head and extremities, a sense of stiffness and oppression about the eyes sometimes vertigo on rising from bed or chair previous to the developement of the actual disease great uneasiness and oppression about the Epigastrium is experienced, some little nausea and vomitting, particularly in the mornings, a continued desire for cooling drinks associated with a tongue dry and fauces parched as it were, with heat and dryness of the skin sufficiently indicative of febrile action, not unfrequently the bowels are constipated, sometimes the reverse obtains or diarrhea: the evacuations dark and vitiated, sometimes of a watery or whitish aspect, indicating derangement of the hepatic functions; they seldom or never exhibit their natural appearance; frequent pains in the Lumbar regions, with paucity of urine universal pains especially in the joints of the extremities, heaviness and pressure about the forehead &c These then are the most prominent symptoms which characterize the initial or forming stage, and which seem to apprize the Practitioner of the approach of the impending fever —

The system after having exhibited these course

of predisposition, sooner or later becomes
oppressed with the disease itself which is de-
veloped in the succeeding visible and
distinct stages. The pathognomonic symptoms
of the disease in its first stage are slight
chills alternated at first with transient
flushes of heat, unpleasant and painful
sensations of cold, passing along the spinal
column, or spinal cord that occasioned by
the effusion of cold water down the back
The whole surface begins to loose its natural
and healthy aspect, and as the sensibility
becomes benumbed and the rigors increase
in violence, to diminish in volume, There
follows slight nausea which soon passes
off. The finger nails and lips assume a
purple hue. The patient soon becomes void
of one position and incapable of directing
his attention to any particular subject.
His ideas being fleeting and momentary.
The coldness now increases in violence, with
a convulsive trembling motion of the jaws
the skin becomes pale, shrunk and firm
The spastic contraction of the muscles becomes
extremely painful and distressing particularly
in the backs. The patient appears as if in

a paroxysm of convulsions. The child sometimes
on arrives to this point, but generally terminates
in incessant nausea and reaching to vomit
Large portions of phlegm containing small
quantities of ingesta are at first ejected. but
soon or later the evacuation takes a change
consisting principally of darkish bile extremely
nitrated and acrid, respiration hurried
frequent and oppressed with cough dry and
occasional deep sighing. If the vomiting still
continues exerts itself still further, sometimes
assuming the character of bilious Cholera.
This though is of rare occurrance for at this
time there is not much or any instability of
the Stomach.

After having passed on in a regular and
gradual manner through this the first
stage the child abates in violence and
after some time terminates in the commencement
of the second ~~stage~~ it is rendered obvious by
the frequent glows of heat which now pass
over the face and from thence over the entire
Body. The signs in the first stage were
indicated by the smallness, fulness, and frequency
of the pulse, tremulous and undulating in
its motion and occasionally an intermission

but now in this the second the weakness & feebleness of the pulse becomes changed into that of strength and fullness. The great sense of coldness now rapidly retires, & is succeeded by a gradual intensity of heat beginning to be diffused over the whole system. The third continues to increase with dryness of the mouth pains in the back particularly in the Lumbar regions accompanied by great anxiety and restlessness. The pulse becomes quick, hard, tense and bounding to the touch, beating with much greater force and and strength. There is sometimes a slight delirium which if not properly governed causes a tendency for the exciting fever to degenerate into a low or typhoid grade. This delirium is to be imputed to an insufficiency of depleting measures, and a peculiar tendency of the blood to a preternatural determination to the brain. The temporal arteries throb with unaccustomed energy and force, giving rise to much uneasiness. There appears to be great turgidity of the internal vessels. which excites a continued and unpleasant sensation in the head. The nephritic secretions are greatly diminished and highly coloured without the least indication of sediment. As the

paroxysm thus continue the pulse lessens in frequency and tension. The disease after having made this advance now seeks its crisis or that stage of fever in which it either assumes a more favourable or unfavourable determination. A calm and gentle perspiration now makes its appearance first on the forehead and from thence extends itself over the whole frame. The pulse becomes fuller and slower and at length assumes its natural pulsation. After the perspiratory fluid augments in quantity the patient enjoys a little repose from which he awakes a little invigorated and nearly restored from indispositive, except some little debility which we must naturally expect. The urine evacuated during the paroxysm was diminished in quantity but now it becomes more copious, turbid and deposits a red or lateritious sediment. Such then are the course and most prominent phenomena of Bilious Fever. Aberrations it is true sometimes occur but seldom sufficiently to destroy its general character. It is thus the natural origin and usual progress of the disease appear in a general.

point of view. But it is exceedingly difficult or impossible to detail accurately and correctly the history of any disease which has so many applications, subjected to so many and peculiar modifications according to climate & constitution and characteristic of so many and irregular phenomena. and being sensible of the advantages derived from an intimate acquaintance with its history and nature which I possess not. and of the difficulty attending it I shall content myself with a brief detail of those circumstances which should be deemed essential and which have a direct relation to its remediate management &c

The disease having advanced thus far and having exhibited the phenomena as above generally declines farther progress particularly if submitted to an early and proper treatment But should any circumstances of ~~constitutive~~ situation or peculiar temperament of constitution arising from depraved habit, direct the disease in a more continued and violent form, prohibiting its crises, and removing all prospects of the last or swirling stage; then it is that the symptoms instead of abating and retiring

terminates but partially, but in a slow & lingering manner, constraining the patient to dwindle still longer under its influence and the sweet Lobe of convalescence to be expelled The pulse being somewhat reduced yet we discern no perfect apyrexia. The skin still remains preternaturally warm and dry. The pulse still excited, pulsating with increased celerity and force. In fact all the symptoms connected with those detailed in the preceding part assume a highly dangerous and agravated aspect, and in particular constitutions and localities approximate to the malignant type. The eyes again present a deep yellow hue, the whole surface acquires a variety of shades between a pale and an orange hue. The functions of nearly all the secerning organs are greatly impaired and deranged, that of the liver in particular its secretions presenting a highly morbid aspect the pains in the head and Body are greatly augmented. In fact all the organization manifests a high state of morbid derangement. In some of the more exceptive and continued fevers the disease assumes a low or typhoid type and becomes chronic, for the longer its continuance the less acute it becomes. The

pulse is small tense and rapid and if delirium ensues it is of a low kind, but influenced by circumstances.
Having now concluded what I have to offer in relation to its origin and decline I will hasten on in a few words to the consideration of its causes and in as brief and cursory a manner as expedient —

As this is the third head of promised discussion and a subject upon which there appears to have been among Medical Men much apprehension and diversity of sentiment, a want of unions and of united exertion in research, one which has given rise to many conflicting opinions. a subject upon which many ingenious yet hypothetical sentiments have been entertained and advanced, one which has given rise to much discord both in a pathological and practical point of view. I shall pass a sense of its difficulty and of my own limited knowledge and pass a design not to dwell at any length merely make mention of the general cause from which the disease principally originates. avoiding the one upon which were I to risk an opinion I am aware I should hazard much.

for from my short course of reading and from the few publications I have seen in relation to this subject, I can discover nothing satisfactory as to truth, accuracy and decision.—

When I speak of remote or predisposing cause I mean what is usually designated under the terms of Miasmita or malaria, being the subject to which I am about to advert. From a transient glance at medical science we find this to have prove a theme of indefatigable investigation and of endless discussion, to have led to a series of experiments and examinations in illustration of their effects upon the human organisation. From periods remote this volatile principle of vegetable decomposition has been looked upon as the principle agent in predisposing the system to the exertion of Bilious Fever and to it must be attributed the first and greatest cause in the generation and propagation of all diseases existing in the forms of Intermitting and remitting fevers. But whilst this at present is conceded by every Learned condid, and experienced man, yet at periods far back there ~~have~~ were been some who

influenced by some superstitious notions, refer
red their production to some unknown and
inscrutable causes — such as the power
of Divine vengeance, or the influence
of the celestial bodies, the moon, stars &
other imaginary agents which at the
present period would be deemed fanciful
and delusive. Thus it is that men
without due investigation and reflection
subject to murder and rebel in the seductive
paths of idle fancy and theory, adding
still more to the many difficulties that
accrue from false premises and hypothetical
reasoning. But time and self distrust will
not allow me to go back to ancient
authorities to pore or condemn any position
they may have accepted, nor to the numerous
ancient writings because they might be cited
in justification of any and every thing. And
happily for the science of Medicine, it is
rapidly advancing along the gentle stream
of promotion, and soon will arrive the
glorious period when it will be brought to
that state, in which, no subject will
remain that cannot be investigated, no
hypothesis, no difficulty that cannot be

surmounted. These delusive thoughts no longer exist. the vague foundation upon which these hypotheses were based will be found among the wreck of former ages. But to the Sun as the first source of heat and light do we with propriety and confidence refer the whole or greatest share, It is now established by observation that it is to the united agency of heat light & humidity that we are to refer anything deleterious in the air, for it is sufficiently manifest that no animal or vegitable matter while in heathe can give rise to disease from their exhalations It is therefore that we are constrained to look for the course of this disease in a morbid state of vegitable and animal matter more particularly the first, submitted to the agency of heat and moisture. It is the expensive power of the one connected with the relaxing qualities of the other that decomposes and removes it from its putrefactive bed of generation, that renders it lighter than the air, through which it is dispersed and conveyed, and sustained in it by aqueous vapour. The Marmata

being brought to a state of concentration can be wafted to some distance before its deleterious powers will be manifested. though it may be deposited or diluted as not to prove of efficient action —
Many and various have been the opinions that have been entertained and advanced in reference to the nature of miasmas, in demonstration of what it consists, how and in what manner its introduction into the system is effected. Of this however I say nothing as it has not been demonstrated to full satisfaction, except that the Lungs are the medium through which it is conveyed. It would therefore be presumptive in me inexperienced as I am to hazard an opinion. And shall merely make mention of some of its effects upon the animal economy. The first indication then of its existence is according to some is an increased secretion of bile. though by others negatived. but this morbid increase remains but a short period for as the miasma becomes more concentrated the excretory ducts of the Liver becomes obstructed in their functions. consequent to which congestion takes place, the bowels become

constipated from the paucity of bile, being deprived of their due stimulous. as these effects increase a small portion of bile is absorbed into the system, giving rise to a yellow hue of the eyes and skin. The circulation becomes embarrassed by the above effects. Nature is now retarded in her functions, the excitability becomes increased or accumulated consequently febrile actions takes place, full and dull pains occur in the head and body associated with sensations of oppression, and then in succession giving rise to those feelings of anxiety and extreme restlessness which has been portrayed in an imperfect manner in its preceding history in connexion with many other morbid actions.

Although the above mentioned cause is generally esteemed the first and most obvious, yet there are others which may be termed exciting, which under certain circumstances may prove productive of the disease such as weakness of constitution, improper and unwholesome regimen, excessive fatigue, long and continued watching, especially the last. Hence it is that in the perusal of authors we

ce it described as having raged with more violence, in low situations, Camps &c than any other. There are certain states of the mind in which we must believe, a predisposition to take the disease may be effected — perpetual anticipations of some approaching evil, anxiety and want of exercise seem to augment, while hope, confidence and activity and whatever tends to raise the energy, diminishes the susceptibility. All of which no doubt conspire to increase the disposition. The last circumstance I have mention in speaking of its causes, is habit or that tendency which previous attacks have to the recurrence of the complaint. Hence it follows that we see persons labouring under it for months and even years. It influences the phenomena of many diseases. It sufficiently indicated in its effects in the chile. That the slightest cause is capable of renovating the paroxysm when long habit has left a predisposition ——

The disposition for the reception of Bilious fever being once formed by the causes now stated, excited by variations of weather and season, the general character of the

malady is given, and any irregularity will be competent to excite a paroxysm of the disease. But all the circumstances will be found to depend upon the habit and constitution of the patient —
In relation to the proximate cause of this disease, a subject from which has originated much diversity of sentiment, upon which many useful and ingenious opinions have been entertained and advanced, I leave to the investigation of more extensive minds than my own, to the investigations of more learned and favoured persons than myself to the decision of those more habituated to post mortem examination and research the want of which I greatly feel —

Having now made a conclusion of what I promised to speak it remains that I should offer something in regard to its medical treatment. But as the various modifications of this disease would necessarily require a corresponding course and diversity of treatment, I must omit its history, a detail of which would carry me far beyond the limit to which I am confined,

and in this acting I trust that I shall not be exposed to any accusation which may tend to condemn my intentions, to any enemies indications of the motives by which I am directed. However imperfect & unsatisfactory these expressions may appear to the critick I submit them as they remain leaving this motive to plead their apology fully sensible that I depend under the kind indulgence of a much respected and enlightened Body, whose zealous bosoms are ever open to candour and liberality—

Finis

A

Dissertation

on

Cynanche Trachealis

Submitted to the Provost, Trustees and Faculty

of the

University of Maryland,

for the

Degree of Doctor of Medicine

by

Asa M. Ditson,

Maine

March 1833.

To

Doct. Caleb M. Jones

My friend and preceptor.

In dedicating to you these lines, for which I conceive it difficult to find a more suitable patron. I am actuated by those feelings of respect which your distinguished medical skill, as a Physician, and social virtues as a citizen cannot fail to elicit from every honest heart.

I could wish it were in my power to offer a tribute more worthy your acceptance, and more expressive of those sentiments of esteem which I am proud to cherish, and which all the finer feelings of my nature, prompt me to acknowledge, for your disinterested friendship and kindness to me while a student of your office. But that native dignity which adorns your character admonishes me not to soil with fulsome eulogy the lustre of those talents and those elegant accomplishments which enlighten and enliven the circle in which you preside.

Allow me, Dear Sir, to believe that the goodness of your heart will throw a veil over the weakness which thus betrays my youthful ardour into a public avowel of that affection for you which will always be cherished by

Your much obliged and devoted humble servant

The Author.

Cynanche Trachealis.

This form of disease is found to exist in almost every ~~every~~ part of the world. In our own county it has received the name of Croup. It is also denominated Hives supposed to be a corruption of the term heaves, and probably so named from the heaving or violent efforts of the muscles of the chest and abdomen which take place in breathing during its course.

The disease usually commences with the common symptoms of a cold or catarrh, but essentially consists in a peculiar inflammation that spreads through different parts or even the whole range of the trachea, from the larynx to the minutest branches of the bronchiae, during which a peculiar secretion is found out that readily assumes a membranous form and sometimes lines the trachea during its whole course.

By what means the mucus secernents throw forth this peculiar effusion in this disease is unknown. It is supposed by some, to be secreted on no other occasion, and by no other organ, but this is probably incorrect. When this membrane is removed, the subjacent tunic

is found of a deep red colour, occasionally livid and somewhat thickened. It is found to correspond exactly to the canals which it invests, and of a thickness that varies from half a line to a line. It is of a white colour sometimes with a shade of yellow, and is almost entirely opaque, and consists essentially of fibrin.

In a few days, or even hours after its formation this false membrane begins to be gradually detached from the mucous coat and being broken up by the cough is sometimes expectorated. The separation is effected by a more liquid secretion which in its turn becomes concrete, and constitutes a second membrane. This process may be repeated several times in succession, but each successive formation is less consistent than the preceding. In children the disease generally begins in the bronchiae or larynx and very rarely extends beyond the glottis; While in adults it more frequently originates in the tonsils or pharynx.

Dr. Cullen asserts that Croup seldom attacks infants till after they have been weaned, and that there is

no instance of its occurring in children above twelve years of age. As a general rule this remark holds true, but this disease, at least in our own country, is by no means unfrequent in infants at the breast, and it has been occasionally found in persons considerably above twelve years of age. Those who have had it once are more susceptible of a second attack than before, though the susceptibility gradually wears off as they grow older. It is found equally in midland regions and on the sea-coast, but perhaps more frequently in low marshy grounds, than in drier uplands. It is sometimes epidemic, but never contagious.

It most frequently attacks with a slight cough, hoa-
-rseness and sneezing as though the patient had caught cold and was about to suffer from a catarrh. And to these, in a short time, succeed a peculiar shrill-
-ness and singing of the voice, as if the sound were sent through a brazen tube. At the same time says Dr. Cullen there is a sense of pain about the larynx, some difficulty of respiration with a whiz-
-zing sound in the inspiration as if the passage of the air were straitened. The cough is sometimes

dry, and if any thing be spit up it is a matter of a purulent appearance, and films resembling a portion of membrane. Together with these symptoms there is frequency of pulse, restlessness and an uneasy sense of heat. When the internal fauces are viewed they are sometimes without any appearance of inflammation but frequently a redness and even swelling appear, and sometimes in the fauces there is an appearance of matter like that rejected by coughing.

With the symptoms now described, and particularly with great difficulty of breathing and sense of strangling in the fauces, the patient is sometimes suddenly cut off. To these may be added, the countenance exhibits great distress, the head and face are covered with perspiration from the violence of the struggle, the cheeks are alternately pale and livid

Dr. Cheyne has adverted to several changes, as indicating the different stages of the disease and the degrees of danger. There is a ringing croupy cough to which children are liable upon taking cold, attended with little or no change in the breathing or sound of the voice. This is rather the state which is the forerunner of an alarming attack

of croup. It is often without danger. It points out the children, who when exposed to the usual exciting causes are most liable to croup.

1st. There is an unusual shrill, croupy cough, with difficult breathing; the necessary supply of air being with difficulty inspired, from the obstruction of the passage. The voice is altered broken and hoarse. The breathing is like the sound of a pistem forced up a dry pump, and under this extremity of difficult breathing, children sometimes perish.

2nd. The cough and voice are stridulous, respiration laborious, creaking, sometimes suffocative. varying with the degree of difficulty and laboriousness

3rd. The voice is whispering and low; the cough less frequent and not audible at the opposite side of the room, there is the act of coughing without the sound, the breathing increasing in quickness, and interrupted.

When, with the croupy cough, mentioned in the first stage, the breathing continues difficult, the serious attack has commenced and the child is in danger. In this state the skin is warm, the tongue white, the pulse full and quick, and the countenance much flushed. The usual mucous

-ction is interrupted; the patient if not an infant is timid and apprehensive, the eyes are heavy watery and bloodshot. The danger is now to be estimated by the breathing.

The second stage of croup, or that of effusion ~~or that~~ according to Dr Cheyne is generally hopeless. Here the countenance is flushed, but with marks of defective circulation. The lungs no longer purify the blood. There is a purple redness in the cheeks eyes, and nails. The pulse is small and very quick and the urine throws down a sediment.

The third is the moribund state. The trachea is coated with effusion, the face is leaden and the eye filmy. the extremities are cold and swelled. The muscular power is exhausted and the child nearly insensible.

If we except the expectoration of membranous fragments or the appearance of false membrane in the fauces perhaps not one of the other symptoms is pathognomonic. The croupy voice or sound independently of its not being always present or well marked, does not occur until the disease has made some progress. The cough is similar, or nearly so, to that of other diseases, particularly in certain cases of the whooping cough. Professor Laennec observes, that in the course of many

years practice, he had met with but one case of croup sufficiently severe to be recognised from the beginning. It was soon more fully characterized by the expectoration of fragments of false membrane, moulded on bronchiæ of different diameters. In this case, which occurred in a child six years old, the stethoscope detected, during the whole course of the disease, no other respiratory sound but that of dry respiration, evidently tubular or bronchial, unmixed with any of that crepitous dilatation of the pulmonary cells, so strongly marked in infancy. This sign, coinciding with a natural resonance of the chest, will suffice, if it is constant, to indicate croup, affecting the bronchiæ, since it exists in no other case, except sometimes, and in a much less degree, in dilatation of the bronchiæ, a chronic affection generally of very partial extent, and not liable to be confounded with croup.

The essence of croup consists in the secretion of the viscid and concrete lymph, which is perpetually endangering suffocation. Dr. Cullen ascribes the danger principally to spasmodic action, and represents the accompanying fever, which on his hypothesis is also

a spasmodic action, to be very considerable. but spasm with him was a very favourite doctrine.

Professor Potter says "that no spasm can be formed in croup, nor in either of the diseases, of which the upper appendages of the lungs are the seats. The inflammation sometimes extends from the lining of the trachea to the muscles surrounding the glottis, and in other cases it commences in those muscles and travels downwards, but the situation and office of all the muscles is such that they can never close the passage into the windpipe. When in a state of inflammation, an irritating cause acts upon the muscles, great pain and tension are excited, but they are so completely antagonized that they cannot close the passage. The sonorous cough, which has sometimes been compared to the barking of a small dog or fox, is occasioned by the rigidity of the inflamed muscles. in such cases the voice is much louder and more shrill than in health. Nothing but bloodletting freely, will remove the inflammation in its highest degree".

Croup is almost always attended with considerable constitutional disturbance, accompanied by

general or symptomatic fever. In some cases particularly such as occur in hospitals, it is observed, that the pulse is but little accelerated, the skin rough the debility extreme, the breath fetid, even where no gangrenous specks appear in the throat.

The locality of this disease, as well as the peculiar character of the inflammation, sufficiently distinguish it from catarrh, in which there is also some inflammation of the mucous membrane of the trachea, though of a common kind and rarely limited to this organ. It is principally confined to the fauces and bronchiae. In children, however, it treads close upon catarrh, measles, whooping cough, and any other disease that has debilitated the powers of the lungs, for whatever tends to weaken or produce any degree of irritation in them, so as to occasion a preternatural secretion into that organ, may be considered as a predisposing cause of croup. It is often founded on hereditary predisposition, as gout or phthisis, and this proclivity to tracheitis, says Dr. Potter, does not always depend upon a scrofulous diathesis. Because several children in

the same family are affected at the same time they are supposed to have contracted it by contagion. But croup is no more contagious than pneumonia or rheumatism. Croup frequently occurs from metastasis of many other diseases, as gout, cynanche tonsillaris, parotidea, measles, small-pox and scarlatina. It is most prevalent in spring and autumn.

The exciting causes, are atmospheric variations, sudden changes from heat to cold, checked perspiration, especially from exposure to cold damp air. These are considered among the principal causes of Cynanche Trachealis.

The cure demands demands prompt and active remedies, and must depend not so much upon searching into and correcting the remote cause, as in counteracting the existing inflammation, preventing the farther effusion of lymph and promoting the loosening and discharge of that which already exists and obstructs the larynx and trachea.

According to the views of the best practitioners, in the present day, there is but one indication, in

the first stage, namely to moderate the increased action in the mucous membrane of the respiratory organs. In the second this increased action requires to be subdued, the expectoration of the viscid lymph to be promoted, and lastly the patients strength is to be supported.

There is in the patient a perpetual effort to remove this solid secretion by coughing. But in the first instance, the cough for the most part is dry and ineffectual and nothing more than a little flaky mucus is thrown off.

Very copious bleeding at the commencement, of the attack, by breaking down abruptly the inflammatory action is, of all remedies, the best calculated to crush the inflammation, to detach the forming membrane and put a stop to the disease at once.

In the first instance, when the inflammation is slight and the general symptoms mild an Emetic of Tart. Ant. in small doses is very useful. The warm bath is proper under certain circumstances, when there exists cough without hoarseness and dry skin and debility without inflammation the

warm bath may be successfully resorted to, but it will be injurious if not fatal in the highly inflammatory state. Blisters act like the warm bath and may be used under similar circumstances. In the first stage, then we may have recourse to an emetic, the warm bath, a mercurial purge, venesection, a blister over the sternum. calomel in doses of one, two, or three grains every hour, diluents and the antiphlogistic regimen. The inhalation of warm vapour, recommended by Dr Thome can rarely be practiced from the extreme restlessness of the little patient.

In the second stage, the remedy, principally to be relied upon and which certainly seems in many instances to have operated like a charm, is large and repeated doses of calomel. Of this not less than five or six grains are given to very small children and continued every two or three hours till there is a discharge of green bilious matter which seems to be the criterion that it has taken effect. It not only excites a salutary counteraction, but prevents the farther secretion of thick lymph.

The free and quick use of calomel was first

proposed by Dr Rush, and afterwards recommended by Dr. Hamilton. Relaxants such as Tart. Ant. should be employed during the action of the calomel, and as soon as this has ~~has~~ answered, opium or hyoscyamus may be administered, hydro-cyanic acid has also been highly recommended.

Sometimes emetics will not act owing probably to diminished sensibility. When the trachea and muscles of the glottis are inflamed, the pulse is generally hard, and emetics and calomel will be useless unless we first employ venesection. When tartar emetic even in large doses will not act, combine calomel with it, If this be unsuccesful, we should give the following: ℞. Bichloride of Mer. 1 gr. Aqua fem. ℥1. dissolve well and give a table spoonful every twenty minutes, and at the same time employ general and local depretion.

The attack is sometimes sudden, coming on towards the evening or perhaps during the night. The child awakes with an unusual cough, attended with that crowing noise which is one of the characteristics of the disease. Its usual duration when uninfluenced

by medical treatment is about thirty six or forty hours the alarming symptoms in these violent cases must be moderated during the first twelve hours, or a fatal consequence is the most frequent result. Here then the bold use of the lancet is imperatively called for, as the time is short in which it can be used. Tartar emetic in small doses is useless. Dr. Potter never employs it alone in this disease; his favourite prescription is the following: ℞ Tart. Ant. x grs. Bal. ʒi. suspended in ʒij. Mucil. ℊ. Acac. give a table spoonful every quarter or half hour, if it weaken the patient omit the Tart. Ant. Polygala senega according to some practitioners seems to act specifically on the pulmonary apparatus, and is highly recommended by Dr. Archer, but it acts only as an emetic. Expectorants and diaphoretics may be administered in the first stage but they never succeed when there is much inflammation or fever. Onion tea is a good expectorant sudorific, as a remedy it is better than senega.

Dr. Potter places but very little confidence in the practice of tracheotomy, if it be ever necessary it is owing to neglect in the first stage.

Dr. Michaelis, however, recommends tracheotomy and has so little apprehension of its being attended with danger, that he advises it to be resorted to soon after the attack, as affording a convenient opportunity of bringing away the preternatural membrane which lines the trachea. But this advice is given with more courage than judgment. Whenever performed, it should be a dernier resort after every other remedy has failed.

After the exudation through the trachea and ramifications of the bronchiae, as the pathological observations of Laennec, Louis and other writers prove to be frequently, though not always the case, there will be but little hope of benefit from such an operation. Dr Cheyne has also shown that the operation cannot be necessary for the purpose of letting air into the trachea; for in patients who died of the disease he found a pervious canal one fourth of an inch in diameter. He considered the operation as equally unfit for the removal of the membrane; for from its extent, tenacity, and adhesions, this is almost always impossible, and even if it could be extracted,

respiration would be but little improved, as the ramifications of the trachea and bronchial cells would still remain obstructed.

If the predisposition begins to be developed, change of dress and exposure to damp air should be carefully avoided. The patient should exercise frequently on horseback and wear flannel summer and winter. There is no condition of children that requires greater care.

The cold bath in summer and even in winter if it be in a warm room, and the patient be put in bed immediately is one of the best tonics. Sinapisms in the very first stage have checked it. After the use of Bichloride of mercury, the patient is sometimes debilitated and the bowels weakened, it will then be necessary to use something to strengthen them, such as Tinc. Opii. weak brandy toddy, and Elix. Bit. These gentlemen are all the remarks I propose to make on this disease. I have attempted to give you its symptoms, pathology and treatment, according to the views of the best practitioners of the present day, with no claims to originality of idea. If they meet your approbation my object is accomplished.

A

Dissertation

on

Puerperal Mania and Inflammation of the Brain.

Submitted to the Provost Trustees and Faculty

of the

University of Maryland,

for the

Degree of Doctor of Medicine

by

George W. Stuart

of Maryland.

March 1833.

To my Friends and Classmates,

Asa McDilson of Maine,

and

Benjamin F. Houston of Maryland—

In dedicating to you these few lines, I am actuated by those feelings of respect which your high literary attainments and acknowledged worth, as well as your zealous and untiring efforts in the prosecution of medical science during the past season, cannot fail to elicit from every honest heart.

The Author.

The confinement, agitation of mind, heated room, and all the circumstances of childbirth to delicate women, render them more or or less susceptible of the state of puerperal mania and inflammation of the brain.

The period at which this mental disease appears is various, but it is seldom if ever sooner than the third day, often not for a fortnight, and in some cases not for several weeks after delivery. It usually appears rather suddenly, the patient awakening, perhaps, terrified from a slumber; or it seems to be excited by some casual alarm.

She is sometimes extremely voluble, talking incessantly, about one object supposing, for example, that her child is killed, or stolen; or, although naturally of a religious disposition, she may utter volleys of oaths, with great rapidity.

In other cases she is less talkative, but is anxious to rise and go abroad.

It is not indeed possible to describe the different

varieties of incoherence, but there is oftener a tendency to raving than melancholy.
She always recognizes surrounding objects, and either answers any question put to her, or becomes more exasperated by it. She can by dint of perseverance, or by proper management, be for a time interrupted in her madness, or rendered in some degree obedient.
In some instances, she reasons, for a little, pretty correctly on her insane idea.
The eye has a troubled appearance, the pulse, when there is much nervous irritation, or bodily exertion, is frequent, but it is not in general permanently so, though it is liable to accelerations. The skin is sometimes rather hot, the tongue white; the secretion of milk is often, but not always, diminished, and the bowels are usually costive.
There is seldom permanent headache, but this symptom is sometimes produced pretty severely by attempts to go to stool, if accompanied by tenesmus, or by efforts to void urine in strangury.

3.

In some instances the patient recovers in a few hours, in others the mania remains for several weeks, or even some months; but I believe it never becomes permanent, nor does it prove fatal, unless dependent on phrenitis.

Venesection has been advised in this disease; and its propriety will depend on the presence of symptoms of determination to the head, indicated by pain or heaviness, and by the state of the vascular system, with regard to increased action, and the evolution of heat. When there is a little febrile affection, I agree with those who consider it as hurtful, or at least as useless.

In every case we may apply leeches to the temples, open the bowels with a smart purgative, keep the surface gently moist by means of saline julep, and afterwards allay irritation with liberal doses of camphor or opium.

Blisters have by some, been considered as useless or detrimental, but I am confident I have seen them do good, after they had discharged freely.

Opium is a very doubtful remedy, it often makes the patient restless than procures sleep; but in the wane of the disease, it does in some cases agree with the patient, and is productive of great benefit.
There is sometimes considerable difficulty in keeping the patient to bed, and making her take either food or medicine.
It is therefore in such instances of great advantage to have early recourse to the straight waistcoat, which not only commands the patient, but tends to make her exercise self-control.
In the whole course of the disease, the greatest attention must be paid to the bowels.
Often the patient voids both urine and faeces without telling, not from being unable to retain them, but from inattention or perversety.
The mind is not at first the subject of management, but in the progress of the complaint, it may by prudent efforts be aided in convalescence, by cheerful conversation, light reading, music, and afterwards by daily walking and change of scene. Some are peculiarly li=

=able to this disease after delivery, in conse=
quence of the irritable state of the nervous system
at that time. In such cases, the patient ought
to be bled occasionally during pregnancy, and
particularly toward its conclusion; unremitting
attention should especially be paid to the state
of the alvine discharge, which I am disposed to con=
sider as of the utmost importance.
The must be carefully watched after parturition.
Every irritation must be removed, every source of a=
larm or agitation obviated, and the camphorated pu=
lep with laxatives will be the proper remedies, these
being the most powerful means of diminishing the
excessive irritability of the nervous system.
It is impossible to be too vigilant of the state of
the bowels, either in a prophylactic or curative view.
The diet is also to be regulated. If the patient
do not sleep well, hyoscyamus should be given.
It is often of service to get the patient up as
soon as can be done with safety, and have the
mind occupied with such amusements and pur=
suits as keeps it equally exercised, without risk=

=ing irritation. There is a variety of this disease, in which we find the patient, very soon after delivery, complains of restlessness, or rather inability to sleep. The head is slightly pained, there is a feeling of unusual muscular weak=ness, the pulse very little quicker than it ought to be. Then, rather rapidly, the symptoms become more marked, the pulse becomes very frequent, the skin hot, the face flushed, the hearing a=cute, the eyes suffused and sensible to light, the eyelids heavy.

There is a sense of tightness in the throat, or suffocation; the feeling of muscular weak=ness is converted into a degree of paralytic debility: the head is acknowledged to be pain=ed, but sometimes only a very indistinct and varying account can be got of the sensation. There is thirst; the bowels are costive, and the secretion of milk goes on. There is no appa=rent mental derangement; only the patient is generally very dull or still, though some=times irritable. If the disease be not attacked

vigorously, the paralytic symptoms increase; the pulse becomes very slow, and in many instances even death might follow.

By instant venesection, to a considerable extent, all the febrile symptoms subside, the skin becomes cooler, the flushing goes off, the pulse falls from perhaps 130 to 80 or lower, and the patient says that she now can open her eyes freely, and feels relieved from weight in her head which she remembers to have had, although before bleeding she perhaps would not admit its existence.

In a few cases, by full purging, and blistering the head, she is restored at once to health. But more frequently the recovery is partial. She complains still of muscular weakness, sometimes of her head, and often of extreme acuteness of hearing, or sensibility to light; and the mind is affected in so far, that she doubts the identity of her child; or becomes suspicious of her friends; or impressed with the idea of approaching evil; or indiffe-

=rent about every thing. The appetite is gener=
ally keen. This state, by attention to the bowels,
regulation of the mind, change of scene, or induce=
ment to moderate but renewed exertion, goes off,
although sometimes not for many months.

Melancholy usually comes on later than
furious delirium. The disease differs nothing
in appearance and symptoms from melan=
choly madness occurring at other times.

It is obstinate, but generally goes off after
the child is weaned, and the strength returns.
It is therefore proper to remove the child, and
send the patient to the country as soon as
possible. In some instances, both kinds of mad=
ness seem to be dependent on a morbid irrita=
tion, such as inflammation of the mamma, &c.
Here our attention must be directed to the
cause.

Inflammation of the brain usually ap=
pears still earlier than delirium, from irri=
tation. It may be caused by the determina=
tion of blood to the head, or preternatural —

irritability of the sensorium, or may occur in consequence of a constitutional tendency to mania. It must be distinguished from puerperal delirium which is seldom dangerous, whilst this is a most fatal disease.

It generally appears within the third day after delivery, but it may also take place later. The pulse usually continues frequent from the time of parturition. The patient does not sleep soundly, and indeed is watchful.

She soon complains of throbbing within the head, or in the throat, or ears; then of confusion, hears acutely, dislikes the light, and speaks in a hurried manner; and often is unusually interested about some trifle.

Then all at once furious delirium comes on; she talks rapidly and vociferously, the eyes move rapidly, are wild and sparkling, and very sensible to the light.

This state may continue, with little intermission, till symptoms of compression appear, or there may be a short interval of reason,

but presently the fever returns, and alternates perhaps with sullenness.

The case is in these respects modified according to the inflammation; for sometimes it comes on rapidly and to a great extent, at other times it proceeds more slowly.

The lochia are not suppressed, nor are the bowels bound, but the secretion of milk ceases. In three or four days, she becomes paralytic in one side, and then sinks into a low comatose state; the extremities become cold, the breathing laborious, and sometimes convulsions precede death.

This disease requires the prompt and early use of the antiphlogistic treatment, general and local bloodletting, the use of purgatives, and the application of a blister to the scalp. The inflammatory symptoms being subdued, the delirium abates, or goes off. by the use of remedies formerly pointed out.

An Inaugural Dissertation on Delirium Tremens

Submitted to the Examination of the

Provost, Trustees and Medical Faculty of the

University of Maryland.

For the degree of Doctor of Medicine

By John Lee Webster
of Maryland

March 1833

To the Professors of the Medical department of the University of Maryland.

The zeal and wisdom you have evinced in placing the Institution you superintend on a footing so respectable, give you a lasting claim to the gratitude of all. The flattering recompense you have held out and so impartially distributed to the class of which I am proud to have been a member, kindles the fairest prospects to improvements that will be a lasting monument of your Perseverance and Philanthropy.

With these grateful acknowledgments, I have presumed to offer you this production; and beg you to accept its dedication as the only becoming tribute of those sentiments of gratitude and esteem, with which I have the honor to remain with great respect.

Your Most humble and devoted Pupil,

The Author

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To Doct. P. Macaulay of Baltimore

As a testimony of gratitude for his kindness and instruction, and as a just and admiration for his professional erudition and eminence, this feeble attempt is respectfully inscribed by his

Nephew and Pupil

The Author

The repeated essays which have appeared in the Journals of our country upon this disease, have failed to satisfy my mind of the correctness of their pathology or mode of practice; a consideration which I trust will be deemed sufficient excuse for an attempt to offer a few observations respecting it.

Having been for a considerable period of my studies, a resident Student of the Baltimore Infirmary, my attention was strongly drawn to the observation of this disease; not by the number of cases admitted into that Institution, but in consequence of the peculiar condition of the individual, labouring under a malady so distressing to those engaged in affording him protection and relief. Indeed so critical is his condition and so narrow is the ground on which he is cast, that an error one way or the other would in all probability prove destructive to his existence; so that without some experience and a correct knowledge of the true state of his system, we should fail in our attempts to cure, and perhaps hurry him to an untimely grave.

Thus in consequence of the undetermined and unsettled character of the Pathology and Treatment most proper to be adopted for success, I am induced to detail to you the result of my observation

and opinions in its management with some remarks in opposition to the pathology and treatment adopted by those who have already written.

With these few introductory remarks, I will first consider the appellation by which the disease should be designated, and then, will describe more particularly the most prominent symptoms, which characterise it, and which point out the true Pathological condition of the organs concerned; and lastly the treatment for its different modifications.

Name. The preference given to the term Delirium Tremens over that adopted by many writers, viz Mania a potu, may be justified by the following reasons, as proper and correct.

In the first place, it is necessary that a disease of so peculiar a character, should be designated by a term which is common in its use and definite in its meaning. Thus we find that this term was adopted by Sutton, who I believe first wrote an essay upon this subject, and it seems to have been exclusively pursued by the European writers, both British and continental, with the exception of Armstrong Pearson and Aldinson, who adopted the term Brain fever, but so extremely lax and vague is the appellation, that other dis-

cases of the Brain might with propriety be class-
ed under the same head. Thus we may have
an inflamation of the Meninges of the brain from
some mechanical cause requiring a treatment
diametrically opposite to the one in question: how
important then the distinction to be made, when
such is the case!

The name given by Doct. Sutton has been
adopted by the Germans, by the French, by the
British, and by many of our own countrymen.

In the second place, the Delirium of this
disease is different from that usually designa-
ted Mania; although under peculiar circum-
stances, it may admit of a treatment somewhat
similar. The latter may be considered essen-
tially chronic, whilst the former rarely lasts
more than eight or ten days. The period of
duration, the only distinction made by Nosol-
ogists, being by no means sufficient for the
practical Physician, because the Delirium
arising from the continued use of Stimulants
and sudden suspension of the same, differs
from Mania, not only in its character, but in
its dependance upon different conditions
of the system; The former, the result of a distent-
ed and debilitated state of the nervous sys-
tem induced by excessive stimulation, produc-

cing irritation and even inflamation; whilst the latter arises from a state entirely different, requiring different modes of treatment.

In the third and last place, the Delirium à Suspensione potûs is different from the Delirium à stimulatione potûs, which indeed approaches more to Mania than the former; because the one is attended by a diminished strength of the Muscular system, and the other by an equal or even increased Muscular exertion; so that the organs are really differently affected.

These are my reasons for adopting the term Delirium Tremens, as being the most general in use, most correct and consistent with the Pathological condition of the Organism, and pointing out more obviously the Remote and Proximate causes of the disease. ——

Symptoms. The most appropriate appellation for the disease, (having been thus briefly considered), at once conveys to the mind a correct idea of the trembling delirium which so strikingly characterises it, and which is indeed the most prominent symptom. More manifest perhaps in some individuals than in others; it rarely fails to exhibit the following appearances.

Sometimes the individual attempts to speak, when we observe a trembling of the lower jaw and an irregular motion of those muscles which belong to the Larynx, producing a modification of the voice, and a tumultuous articulation of his words.

He is extremely watchful and unable to sleep, even for a moment, to disconnect in his imagination and so various are the apparitions which continually haunt his mind and distort his repose. Indeed every thought seems to bring new objects to his view and from anxiety and disquiet drive from his lids those slumbers which might afford a balm to his troubled soul. Finally worn out and exhausted by the debilitating effects of the disease, he sinks a ready victim to the King of Terrors.

The patient in consequence of this state of his imagination, is continually both night and day, in one incessant excitement, constantly talking, thinking and fancying the presence of objects of every kind and shape, which give rise to the most restless activity. In short every act indicates a highly excited condition of all the mental functions.

One sees dogs, horses, cats and hogs, cross

ing and recrossing his chamber, and not unfrequently interrupts his physician or nurse to drive them from his presence, insisting most positively upon their reality.

Another sees persons with whom he converses, and often complains ~~to them~~ of being disturbed by the presence of visitors, and unable to obtain repose in consequence of the hardness of his bed and disordered condition of its furniture, frequently pulling ~~them~~ it from side to side, until he is interrupted by a new and more forcible apparition.

Another striking peculiarity is an incessant activity of the muscular system. This seems to be the result of the constant succession of thoughts and emotions of the mind, which keep him in an incessant exertion. Starting from his bed to converse with or avoid the many phantoms which infest, he continues upon his feet anxiously looking around him, even when reduced to the last stage of weakness.

At this period, one labouring under this disease, will even attempt to get out of the windows in spite of every remonstrance, when he is so weak and exhausted, that the slightest push will cause him to totter and even fall. And this occurs, when the pulse can scarcely

be felt at the wrist, preceding but by a few moments its absolute cessation; when a few struggles mon put an end to his sufferings and distress.

This incessant activity of the mind and body, which I have endeavored to portray, continuing throughout the whole period of the attack, seems to be coeval with the distinct and definable existence of the disease. There are other symptoms which I shall but briefly notice occurring irregularly.

The first of these is the foulness of the tongue, which as far as my observation has extended, has been universally manifest, and indeed from Nausea and Vomiting not being unfrequent accompaniments of this important symptom, it is manifest that the digestive function is impaired by the long and continued stimulation, giving rise to other Dispeptic symptoms which often supervene.

Pain in the Epigastric region accompanied with tenderness by pressure, sometimes occurs, an instance of which came under my own observation, although it has been denied by some mon to have been observed. Then it is, that there are many cases, in which the patient does not even complain, so insensi-

ble is he to the extensive lision or disorganization produced by the continual rush of blood to the diffusent organs, during the indulgence of any powerful stimulant. But some contend that no such symptom is ever manifest in a true case of Delirium Tremens; even when the patient is not so insensible to the influence of any impression, or when the excitement is of a mild character. And that if pain is experienced by the individual, it arises from a diseased condition of some of the digestive organs, as the Liver the Stomach and Bowels; which, (say they) are not concerned in Delirium Tremens, because they existed previously, and must be treated diffusently, and separately. To such an opinion I cannot subscribe and in fact it appears totally incorrect, Because the Remote Cause of the one is that of the other, they are truly appendages of the same. ~~If the~~ No name designating any disease what-ever, could convey to the mind any definite meaning, if the diseased condition of each organ, was defined by a distinct appellation, requiring a remedy to suit its own state or condition.

Pain in the head is also another symptom which sometimes is observed, but not

generally, particularly when in a highly excited condition, which renders the patient insensible to any irritation or inflamation that may exist in the different membranes of the Brain.

With respect to the pulse, the helm by which we are guided in almost every disease, it is of the utmost importance in the one in question, because being of different kinds, it indicates a variety of treatment.

In the Young and Vigourous, it is often strong and full, admitting even of evacuation, whilst in the Old and Infirm, it is small and weak, demanding support and nourishment. In the former we have irritation, inflamation, and even disorganization, resulting from high vascular action, whilst in the latter the powers of the system are so prostrated and debilitated, that such consequencies are not so liable to ensue.

In the last place, Constipation, which is an unvarying attendant, is the result of impaired digestion, produced by those agents, which have already unnerved the whole economy, and deranged its separate functions.

Having thus given a detailed view of those

external appearances, which are generally seen in Delirium Tremens, I will next proceed to enquire what influence it is prone to draw with respect to the organs either individually or collectively, and to point out the difference between them and their healthy condition.—

Pathology. In attempting to describe the pathological condition of the organs in this disease, I find that I am assailed by opinions of so opposite a character that it appears almost impossible to arrive at any definite conclusion. But taking into consideration the complicated structure of the animal system, and the varied functions of the organs which enter into its formation; united by means of different systems, which establish one continuous chain of sympathies, governing and controuling their actions; and connected by blood vessels and by ducts which send out and bring back the fluids to different parts, we cannot be at a loss to account for the varied phenomena which characterise the principal features of this disease.

When any stimulus, such as alcohol, is taken into the stomach, and there mixing

with an extensive mucous surface, it produces an impression, which predominates, until it is radiated as it were, to every part of the system, and affecting each in a degree proportionate to its structure, its function, its state or condition, and in them concentrating all its forces and exciting them beyond their powers of resistance, until finally they become prostrate, and even completely paralised.

In this condition the individual remains until Nature rests and again restores his former strength and energy. In this way he goes on time after time until the energies of the system are worn out and exhausted, and he becomes a fit subject for this distressing malady.

By the known operation of alcohol upon the system in moderate quantities; its energies instead of being depressed, are increased and elevated, giving rise to cheerfulness, courage, loquacity and many other traits, which mark its effects; whilst in larger quantities it increases preternaturally the excitement of the Nervous system, thereby giving rise to an increased action of the heart and arteries, and an increased force and frequency of the pulse, with a distention of the arteries

proportionate to the magnitude of this Cat-
-ibuy.

When it has become habitual, and a certain quantity is taken in a given time, it becomes necessary for comfort and health; and in fact a stimulus, which is as it were naturalised, and so gradually accomodated to the system, that it is actually necessary to keep up that equilibrium, which the healthy and harmonious play of the individual organs require. Thus we find the system becomes callous to the influence of a limited quantity; but when this quantity is increased either gradually or rapidly, and then suddenly suspended, the peculiar disease, which I am endeavouring to portray, most generally takes its origin; commencing first with a great degree of gastric irritability, and a distaste for any article of food or even this favourite draught.

What then is the consequence of the sudden suspension of this habituated stimulus? The power of tumulency abates and subsides, and the system feels the want of its accustomed stimulus, which had so gradually become accomodated to its impression. And to procure an approach towards health it becomes necessary to use those remedies, which have a tendency

to equalise excitement and promote tranquility. If suffered to remain unchecked, sleep would not be obtained, and the whole system would be thrown into a high state of derangement and those things which in his natural and rational mood, were sufficient to render him happy and contented, now become objects of his entire hate, and in fact disgustive to his existence.

Such then is the effect of Alcohol upon the system; being truly the Remote cause of the disease in question, viz Delirium Tremens.

But why is it that those individuals addicted to the indulgence of Alcohol or any other Narcotico Stimulant, should experience such singular and disgusting consequences? Why should not the same be experienced when under the influence of any excitant or stimulant? The reason is obvious. In the latter, the organism is influenced by this superstimulation, in a ratio proportionate to the function of each individual organ. Whilst in the former, the result of this superstimulation is more sensibly felt, or impressed upon one organ than another; in consequence of a difference not only in their functions; but particularly their structure. Hence there is

an unequal degree or distribution of excitement or morbid sensibility manifested; some possessing more and some less, depending entirely upon the importance of the organ in the animal economy. Eg the Brain for instance the centre which controuls all our actions, and from which emanate all the passions and emotions of the mind, & in consequence of the continual flood tide of blood sent with great force, during the period of stimulation or excitement, into its delicate mass; is induced more susceptible of lesion and inflamation of its tunics, than any other organ of the animal Machine.

In asserting that the Brain and its tunics become susceptible of lesion and inflamation from the high state of Stimulation, to which the individual is exposed; I am aware of being assailed by opinions of an opposite character. But the analogy drawn from other Aphalic diseases; arising from irritation and inflamations compells me to conclude that there exists a Morbid condition of the Cerebral Mass, independent of nervous excitability: because the very cause, which is essential to its development, will produce irritation and inflamation, by a continuation of high Stimulation.

With respect to the true character of this infla-

mation, it is difficult I conceive, to determine correctly; because of the various grades which it assumes, and the extent of stimulation to which the individual has been submitted.

As far as my observation has extended, the initated or inflamed condition of the Brain is of the following character. In the first place the organ is by this excessive stimulation, preternaturally supplied with blood, causing the delicate coats of the arteries to be distended beyond their natural capacities, and pressed upon the surrounding nervous matter. This in the first instance is surely accompanied by supernatural excitement, which being continued results in irritation. And, overcoming as it were the regular tone and strength of the arteries and their minute ramifications, which exist in every part of its substance; they become incapable of driving their contents onwards; consequently they become overdistended, and bursting, discharge their contents into the surrounding matter, which if not absorbed becomes foreign and irritating, and inflamation finally supervenes.

When the stimulus which was the cause of this condition of the Brain is suddenly suspended, the character of this inflamation is obviously changed; and I may say, partially

checked; having the organ morbidly excited, and unnaturally sensitive, even to its natural stimulus, the Blood; the action of which in and upon the different portions of its mass; giving rise to many of the symptoms which accompany the disease particularly the pain in the head; which appears to invariably occur in the first instance. But after the elapse of a certain period, it is not perceived; the patient being in fact insensible of the state or condition of his system. As for instance we not unfrequently see individuals laboring under a fracture of the extremities, leave their beds, and stumble across the floors of their apartments, with the splints dangling after them, without a manifestation of a single painful symptom.

Being aware then of this fact, it appears rational to suppose that inflamation does exist in the membranes of the Brain, notwithstanding the pain which at one time was manifest in that organ; it having now become insensible or unconscious of its existence, is not observed by the attendant. Hence we find some telling us that there is pain and others that there is none. But observation which is our only guide; has sufficiently convinced me of its existence in every instance in ~~a certain~~ one stage of the disease.

Doct. Snowden in an essay upon this point, describing the disease as accompanied with pain. And Coates on the other hand says; he has never known it to be observed, and also says, that pain which existed previous to the occurrence of Delirium or that wrong excitement of which I am speaking, sunk in an extraordinary manner to entirely disappear and then to rise when the excitement had subsided, but this I conceive, not always to be the case, particularly in the disease in question, because individuals, (who have come under my observation) after having obtained several hours repose, would awake without a pain; and in some mild cases would be entirely cured. But there are cases in which the pain, delirium, and many of the other symptoms continue for a longer period, and show more manifest signs of inflamation, demanding depletion both local and general, as was the case of an individual, who was admitted into the Baltimore Infirmary, in a debilitated, Delirious, and partially paralysed condition. Upon being interrogated with respect to his habits of living; he informed me that, he drank a certain quantity of liquor daily, and once or twice a year, he drank to excess, and always continued it, until it made him sick, and then

was obliged to suspend it. Such was his condition at this time, and in consequence of being unable to take his composing draught. he told me that he could not sleep, in consequence of the number of objects which were continually before his eyes. Upon being interrogated further he informed me that the pain in his head was continual, his limbs were stiff and partially paralysed with a considerable rigidity of the muscles, and insensibility of surface, and upon an examination, was found to be the the case; his tongue was dry and cracked, and his pulse somewhat quick and tense. He was bled, cupped, purged and blistered, but continued to grow more delirious, and his paralysis to increase, and as those two last symptoms increased his pain decreased. Such then was the condition of this individual, showing most conclusively, that an inflamation of the Cerebro spinal apparatus did exist, from the symptoms which were so manifest and which I have spoken.

But I do not contend that this state of things is always so manifest, or to such an extent, indeed so various are the grades and so opposite is the treatment, for these several grades; that to lay down a treatment for each, would I conceive be impossible.

Having in a brief manner spoken of the Brain and its pathological state, I will noticed those organs which are equally important, if not prominent in this intresting disease, viz the Digestive apparating.

Those organs which compose this complicated structure, are principally the Stomach and bowels (which serve as receptacles for the foods), the Liver and Pancreas, which are instrumental in inducing it to a consistence, sufficient for the support and well being of the animal machine.

The first and most prominent in a pathological point of view, are the Stomach and Duodenum, composing as they do only a part of that tube, which is lined throughout with a mucous membrane, and becomes as I have stated, particularly and materially injured by the agent which gives rise to this complicated disease; which may fairly be considered complicated, since not only the Stomach but the Brain and nervous system, are completely shattered and unnerved, and incapable of controuling the organs which are subservient to their energies. The nerves which convey the mandates of the will, do not harmonize with those whose duty it is to obey, and those which preside over the function of nutrition, now refuse to prepare the elements which are destined for support and subsistance.

In refering to the agent which is instrumental in producing this condition of the organism; we must first compare the structure of those organs and the peculiar sensibility by which they are endowed, with the powers of those which are superficial and in relation with the external world. The one being derived from the Ganglionic system or nerves of assimilation and nutrition, the other from the Brain and Spinal Marrow, or nerves of sensation and motion.

This peculiar sensibility being derived from the Ganglionic system, differs from the Cerebral and Spinal, in not being under the control of the will. But so intimately is it connected by anastomosis; that whatever tends to stimulate the organ, all the organs are subjected to its influence, as well external as internals, and is propagated progressively, and in every direction through the nerves subservient to the Brain the common centre of nervous matter.

By this chain of sympathies, which exist throughout the whole animal machine; every impression or stimulation above the standard of healthy action, is conveyed to the senses and to the whole system of relation. Increased action is given to the Brain, new and more powerful movements are given to the muscles, and the

circulation of the fluids in them or through them is materially modified.

The Stomach which is the first to receive the effect, imparts its impression to the Brain, by means of those nervous cords of the cubo spinal axis, which, mingling as it were with all its minute capillary vessels; and anastomosing freely with the minute filaments of the Gastric plexus of the Semilunar ganglion, employed in transmitting the impulse to its neighbouring organs, until the whole is implicated by its influence. Thus it is, that Nature has so arranged the organs of the digestive apparatus, that foreign substances should not produce the same effect upon it, when in a healthy condition; as upon an external surface. Notwithstanding this wise provision, by the repeated application of those substances of a stimulating nature to the Mucous membrane of these organs; irritation, inflamation, and disorganisation, will be the inevitable consequence. Even articles which Nature had designed for our subsistence, now become sources not only of disgust, but of actual misery and pain.

Such are the consequences of the excessive use of Alcohol or any other Narcotic, which is stimulating in its operation; producing in the first place a highly excited State of the organ, ~~which~~

The effect of this condition transmitted to the Brain; produces in that organ such a degree of excitement, that the vascular system is as it were commanded to accelerate with increased force and rapidity, the fluids to its most minute vessels. Thus in consequence of the delicate structure of their tunics, it's thin dilate to an inordinate degree, or burst and discharge their contents into the surrounding tissues; which by this inordinate action, become prostrate and debilitated, and finally refusing to pump up or absorb this effused blood, it becomes foreign and irritable in its nature and inflamation supervenes.

If this state of things has not taken place, or if this stimulation is not sufficient to rupture the arterial coats, they are much rendered weak in their action and morbid in their sensibility; which is I conceive will exemplified, as the Cerebral mass, by the various phenomena which are apparent and by the peculiar pain or sensibility of which so many complain. The obvious influence from which, is that the morbid sensibility of the nervous mass is produced by the rapid and forcible impulse of the blood through its different parts, and that by distension of its vessels, it is pressed upon and deranged in its functions.

But to return again to the Mucous membrane, I believe them all to be more or less irritated or inflamed, which I am convinced of, not only by the abdominal tenderness and pain, but by the Post Mortem examinations which I have witnessed, and more frequently in the young and robust, than in the Old and Infirm. An aged individual was admitted into the Infirmary, who in consequence of his feeble and weakened condition, died in about twelve hours after. Upon an examination, we found the stomach to have been highly inflamed, similar in colour to raw beef, the mucous membrane in some places much thickened and corrugated upon its surface, in other places completely disorganized and destroyed. The Duodenum was slightly inflamed but not to disorganization. He had previous to his death all the most prominent features of the disease, such as wild and incessant Delirium, and Tremors even to his last moments, but was insensible of his gastric derangement, as most generally occurs in the last stage of this disease, viz Delirium Tremens.

But previous to this condition, before the Brain and Nervous system assume such a remarkable character, which I have called the stage of excitement from the Morbid sensibility of its parts, it is possible by close observation and attention

to discover a tenderness of the Epigastric region by pressure, and a symptom of Aphalic inflammation by the pain of which the patient complains.

Sometimes there may exist a chronic disease of the Stomach and Liver previous to this disease, but when such is the case, we find them mostly aggravated by the use of the morbific agent giving rise to violent headach accompanied with a species of interrupted delirium. Sometimes we observe considerable tenderness and pain in the Hypochondriac region, accompanied with some difficulty of respiration and even of locomotion in consequence of the pressure on one hand, produced by the action of the Diaphragm upon the Liver which is inflamed and on the other by the compressing influence of the abdominal Muscles. Indeed those individuals, who are accustomed to use large quantities of Strong drinks, are all more or less, subject to some chronic derangement of the biliary organs, with dispeptic symptoms and all that train of consequences, which succeed impaired digestion.

In the Post Mortem examinations of many who came under my observation, all were found to have their Livers materially diseased. Some were enlarged, some were changed in colour resembling a brick dust red, and others were so

very soft as not even to bear the slightest force of the finger.

With respect to the mixed species of Delirium Tremens, I will detail a case which came under my observation. T. M— a man of a plethoric and robust habit, occupied for many years in an extensive distillery in this city, was admitted into the Infirmary, labouring under some symptoms of Delirium Tremens, which indeed was recorded as such. His delirium was not incessant, but when left alone would wander and become alarmed by the phantoms which he said were before him. His repose was but of short duration, and his tremors were not so manifest as in cases of a more defined character; his tongue was furred with a brownish coat, his stomach was very irritable accompanied with nausea and vomiting; his pulse was full, hard, and somewhat tense, with some degree of frequency; his skin was dry and husky and his bowels constipated, which he told me was most generally the case. With these symptoms I proceeded to enquire further and was informed that his head was aching most violently, so much so indeed, that he was convinced of the (opening of his skull,) to use his own words) and directed me to put my finger in the space

which I did to gratify him. — He also complained of pain in the right Hypochondrium which upon pressure was found to be considerably tender, indicating a highly inflamed condition of the Liver, and I may say its coats. — He recovered under the Antiphlogistic treatment in the first place, and the sedative and anodyne in the second place, but was discharged with a chronic disease of the Liver, for which he was unwilling to be treated.

Thus it appears, that the pain, which I stated when speaking of the Brain, does not always indicate an inflamation of the organ affected, but is not unfrequently the result of sympathy existing between the Brain and Abdominal viscera, evidently obvious in the case just detailed.

Thus I am fully convinced, that in every case of Delirium Tremens, whether young or old there is a high degree of irritation and morbid sensibility of every organ. The mucous membranes of the Alimentary canal are in a state of inflamation giving rise to Gastritis and Enteritis, and the serous membranes of the Brain are also, more or less, giving rise to Meningitis. &c. And this more over has been incontestibly proved by Post Mortem examinations which I have since made in addition

to the evidence which will be found on reference to the labours of Hamilton, Abernethy and Broussais, and many others of the French pathologists, whose testimony I conceive to be unequalled and undeniable. And again to Doct. Flagg of Philadelphia, who advocates the Gastric pathology in his Thesis, and I presume adopts it in his practice.

Doct. Staughton, in his examinations, says the Stomach and Bowels are inflamed. But Dr. Coates on the other hand says, that although the application of any Stimulant to the Mucous membrane of the Stomach will produce irritation and inflamation, resulting in Gastritis, and Delirium, which is essentially different from the Delirium Tremens, of which I am speaking.

So far as regards this opinion of the Doct. his distinction I believe to be proper and correct. But I do not believe that the morbid condition of the Brain depends entirely upon the Mucous inflamation of the Digestive organs.

If you analyse the condition of an individual, whilst under the effects of any Stimulus, what do you find? All the organs are superexcited, with an increased action of the heart and arteries. Again, what do we find when this superexcitement has abated? A complete prostra-

tion of the system. Let the same person restim-
ulate his dormant faculties and wasted strength
time after time. What will be the effect? In
the first place we find the organs weaken-
ed and debilitated, in the second, still more so
and irritated, and in the third, they are worn
out, irritable, and morbidly sensible, to the slight-
est impulse. Let him the fourth time be submit-
ted to the high degree of stimulation. Do we
not find every organ tenfold more affected than
in the former instance? most assuredly. But what
is the cause of this singular state of things? Those
organs were rendered weak, irritable, and
morbidly sensitive by repeated overstimulation,
now aggravated by continued repletion, un-
til they have become inflamed and even dis-
organised, so that even the circulation of
the blood through them, (which, when health-
y, is their natural stimulus,) excites and
disturbs their separate functions, in conse-
quence of the suspension and want of that
agent, which obtunded their morbid sensi-
bility, and supplied their weakened strength
and impaired energies.

Thus we have a Delirium, the result not
only of inflamation, but of a shattered and
morbid state of the nervous system, which

giving rise to the incessant Tumors, which so well characterise this very distressing Malady.

Treatment — An attempting to lay down a treatment for this disease, which assumes such a variety of grades, would be almost impossible, because that which would be remedial in one instance or variety, would in another be injurious, and perhaps fatal. Therefore for the sake of convenience, make but two principal divisions, viz the Sthenic and Asthenic, of the Brunonian System. The one disposing to high and inflamitary action, the other to low and debilitated action.

First with the Sthenic variety, which consists of an inordinate and deranged condition of the nervous system, accompanied with an inflamed State of the Brain and Mucous membrane. This variety occurs most frequently in those who are Young and Robust, but sometimes in the Old and Infirm.

The pulse in this instance, is generally strong and hard, with some degree of tenseness and frequency, indicating congestion and inflamation of a high grade, which must be subdued by depletion, either locally or generally. When there is a liability to a dangerous

determination of blood to the Brain, bleeding from the arm must be resorted to, and governed with respect to the quantity drawn, entirely by the effect produced. But where this is not the case general blood letting should be practiced with extreme caution, because taking into consideration the impaired condition of the nervous system, if a large quantity of blood be suddenly drawn, the system would become collapsed, and its energies would most certainly sink. Cupping in this instance should be preferred, to be applied to temples, or Nape of the neck. If there exists tenderness upon the Hypochondriac, or the Epigastric region, the cups should be used as freely as the patient would bear.

Although blood letting in this disase, is dis-approved of by a majority of practitioners. Yet ~~not~~ none can say it is improper in all cases. And it appears to me, as far as my observation has extended that if the proper distinction, could be ascertained, between that species which resembles the furious ravings of a Phrenitis, and that which is more analagous to Typhoid delirium, more lives would be saved, than we are accustomed to see, for at that very period when the antiphlogistic treatment ought to prevail, they tell us to supply the system

with that Stimulus which it had lost and to use the expression of Dr. Coats, the Patient must sleep or die. To obtain this effect, Opium the Remedium magnum is justly given. When the inflamed condition of the organ are subdued and are left in a morbid and irritable state, then its value is well exemplified, but when such is not the case, the organ excited and inflamed, it is not only injurious, but even distinctive to life existence.

The Bowels in this variety, should be promptly evacuated, because the vast accumulations of vitiated secretions, the result of an inactive condition of the liver, and impaired digestion, would tend to aggravate the Cephalic symptoms. Purgatives should always follow the Lancet and be continued, until all irritating and accumulated secretions are removed.

When this state of things is obtained and the inflammatory action subdued, alterating should be used to unlock the liver, combined with sedatives, or Narcotics to allay the irritable and morbid condition of the Nerves for which the Denarcotized Opium, should be given.

If after sufficient depletion the Delirium, should continue, the application of Blisters to the Nape

of the neck should be resorted to, as recommended by the eminent Parish, of Philadelphia,

No stimulating drinks should be allowed, such as brandy or wine punch, but this chief beverage, should be those of the mild and mucilaginous kind, such as flax, seed tea, or Gum arabic solution,

The regimen, should be of the mildest and most soluble kind, such farinacious articles. The light should be avoided, and quietness strictly, and rigidly observed.—

Second with the Asthenic variety, which requires a mode of procedure, different from the former in many particulars

The energies of the whole system are so completely overcome, that as soon as the obtunding influence of the stimulant, used by the individual, is suddenly suspended, or abates; he feels the importance of its continuance to support his former strength, and unless obtained he sinks, and without timely aid will die.

Thus we find, that whilst the former requires strictly the Antiphlogistic treatment. this must require one diametrically opposite. As the Stimulating and Sedative remedies.

which I believe are the only alternatives that we can adopt too speedily allay the misery of the individual: both mental and bodily. exactions which, in this variety, are always present must be granted by the free use of Opium. — But when the patient is disposed to be difficult of confinement, with insane delirium, and constant action both of mind and body, the Warm Bath I conceive would be highly efficacious in calming the system, to such a degree that Opium would have a more decided tendency to produce Repose.

When Opium is given we expect to derive from it a certain effect viz. Quietness. — It should be given first in small doses, gradually increasing it, until the patient is put under its influence and sleep is obtained, then the quantity should be gradually decreased, and its influence gradually lowered down to his former condition. It should by no means, be suddenly withdrawn or omitted until the exhausted condition of the patient was resuscitated by a long and sound Repose. Which can always I believe be obtained if aid is rendered sufficiently early, first premising the Warm Bath

The Bowels should be carefully attended to, to remove Constipation, for which the most uninitating articles should be preferred as for instance the Ol. Ricin, or the Ust. Mag. besides, these enemata may be used as for instance, Ol. Ricin, Chloride of Sodium, and tepid water in sufficient quantities.

When the system is much prostrated and a collapse is fast approaching, the bath should not be employed, because it may hasten in all probability his disolution. —

Stimulating enemata I conceive in this state would be proper, such as dilute Brandy, and a Mucilage of Camphor and Ammonia and I may add ol. Turpentine.

When the fluids sum to have retreated from the capillaries, to the large and deep seated trunks, leaving the surface cold and shrunken, the extremities should be stimulated, with rubefacients, and the body sponged over with Alcohol, Tinct Capsicum, Mustard, &c.

During the period of convalescence, excesses of all kinds should be avoided, and his diet of the mildest, and most uninitating character

An Inaugural Thesis

on

The Catamenia

Submitted to the Provost, Trustees

and Professors

in the Medical Department

Abstract of the

University of Maryland.

For the Degree of Doctor in Medicine

by

James McD. Smith of Columbia

South Carolina

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-Preface-

-Gentlemen-

In entering upon a field so vast in extent, so unlimited in the considerations which it embraces, and so important to the interests of the fair sex, I am not a little disconcerted at the undertaking. Being unaccustomed to the cultivation of hypothetical speculation, I feel as though entering upon strange ground — opposed to that blind pursuit of theory, which some profess to observe, I do always wish to avoid laboured hypotheses as dangerous in Medicine If, however, the sentiments of a celebrated writer be correct that "to think is to theorise", then am I a theorist. —

But not yet having strayed from the walks of private life without any source of sure confidence. — I find myself entering on the threshold of science: it is a task of no small magnitude for me to attempt to account for the cause of a disease about which the "literati" of ancient and modern times have so materially differed —

Inaugural Dissertation.

The Uterus is situated in the hypogastric region, is a hollow viscus, and designed to receive the first rudiments of the fatus, which it retains until its parts are completely evolved, and is fitted to make its first appearance on the theatre of the world. — The nerves are principally derived from the intercostal; its arteries from the hypogastric and spermatic. — These arteries are so ramified through the substance of the womb, which is of a lax, spongy consistence, that they form a very considerable part of its substance. When the substance of the Uterus is divided after a lucky injection of the uterine arteries, it appears to be nearly all vascular. — When we meditate on this structure, surprize at the great quantity at sometimes may cease, and we may discover astonishment that the discharge is not more often immoderate, when we reflect that it proceeds from the open mouths of perhaps a half million of vesels. — This organization so curious and interesting is evidently necessary to enable the system to effectuate that phenomenon called the menses. —

From —

From the mouths of the Uterine arteries that discharge of blood called the catamenia is poured fourth. — This flux appears designed for the support of that condition of the Uterus which enables it to retain and support the impregnated ovum.

The menses is a discharge of pure arterial blood from the Uterine arteries. — They appear at puberty and return at stated periods and cease in advanced life. Though the various morbid affections to which the sex is liable, interrupt the course and vary the quantity, they are generally absent during pregnancy and lactation: They are considered as peculiar to the human female.

Constitution, climate, and modes of living, alter very considerably the period at which this healthy action or evacuation first makes its appearance. As this period is established at puberty, the eruption will be earlier or more late, as the human structure is sooner evolved under the warm breezes of a mild, or retarded by the cold of a northerly climate. The menses appear later in those of a rigid fibre, are more

painfull (to page 3)

-painful and tedious, than in others of a more lax habit, and whose constitutions are less border-ing on torpor of the nervous, and rigidity of the muscular systems. In countries near the torrid zone the catamenia appear as early as the eighth or ninth years. In the Icy regions they are retained to the 20th and 25th years. ——
In this temperate climate they generally manifest themselves about the 13th, or 14th years. ——
As the menses indicate the maturity of the system, and as the maturity of this is necessary to generation and as premature venery is highly injurious to the constitution, the laws of most nations have deter-mined at what age females are marriageable. This is much influenced by climate et cetera. In Persia, India and other countries contiguous to the torrid zone, marriages are celebrated at the eighth or ninth year.
Marriages in this country are never celebrated until the female attains to fourteen, and the male to sixteen, years of age. The first travellers over the northern countries, whose observations have been published, affirm that the females of those northern countries do not menstruate. ——
But the most respectable authority has since

shewn

shewn, that the females of Lapland and Kamschatka, and all the diminutive race of the Esquimaux, diffused over such immense tracts of land near the frigid zone, obey this universal law of the human female œconomy.

Though the menses in these countries appear late, continue a short space of time, and return afterwals, and although they flow from certain women only during the summer, while their is an abundance of aliment; yet among these nations they are no less necessary to conception and the health of the system, than among the inhabitants of more temperate climates and any deviation from the laws of the climate produces similar affections to those which occur to females nearer the torrid Zone.

A variety frequently occurs in the different situations of the same country.

Haller mentions a perceptible difference in the women inhabiting a higher or lower situation of the same kingdom. He observed the appearance of the catamenia in certain low and warm districts as early as the eighth year of age; but in more mountainous, and northern districts as late as the twentieth

and (P 6

and twenty fifth years. In these United States a variety is observable agreeable to the variety of country and modes of living. Though they appear generally about the 13th or 14th year in this country, I have seen one instance of their occuring as early as the tenth year.

Van Swieten has observed that the females of Holland menstruate more copiously than other women inhabiting the same latitude. This he ascribes to the use of the foot stove so common among them; indeed I conceive this practice can have much influence on the discharge. Modes of living no doubt influence the time of appearance, the quantity, and the duration of the catamenia.

The use of warm chambers and soft beds often increase the evacuation: contrary circumstances produce contrary effects. The earlier the evacuation begins the sooner does it discontinue and vice versa. Females inhabiting very southern latitudes attain to maturity at the ninth year, are mothers at fourteen, or sooner, pass child-bearing at twenty-five, and exhibit strong marks of old age at thirty. It has been observed that in very northern climates, women bear children at the advanced age of sixty.* In the United States —

*Vide Dr. Monro's lectures on Physiology.

States the menses generally cease on or about the 45th year, at which time the women cease to breed. The appearance of the menses is usually announced by the following symptoms.

The strongest marks of puberty now manifest themselves, the manners alter, the voice becomes changed, the mammæ swelled and turgid, and the pubes now shew the first marks of covering. To these succeed heat and redness of the genital system, sometimes bordering on nymphomania. The system now becomes affected with languor and lassitude, vertigo and head-ach, and various pains are also felt in the hypogastric and lumbar regions: The eyes now become languid and dull, a blue colour appears below the orbits: A serous discharge now breaks forth from the uterus which relieves the afflicted fair.

These syptoms only appear when the menses are about to become established. Many months and even years are consumed before this is affected. These symptoms, commonly precursors to the event, occur monthly, though generally with some alleviation in proportion as the serum becomes more tinged with blood. The discharge becomes,

at length -

at length, pure arterial blood. The eyes now acquire their wonted brilliancy, the lips become tinged with an agreeable red, the cheeks bloomy, galety and chearfulnefs succeed to languor and defpondency; and now the fair one, refplendent with joy, through all nature diffuses her charms.

The evacuation may be divided into three ftages, the beginning, height and decline.

It commences first serous; this gradually becomes more coloured, untill pure arterial blood comes forth. In the decline the blood becomes mixed with serum, which gradually increases until pure serum is again evacuated. This serous discharge, diminishes gradually, until a final ftop is put to the evacuation. The fyftem, at this time, often becomes affected with various disorders, as vertigo, dispepsia, apoplexy and syncope.

The menstrual period when once eftablished becomes uniform, unlefs interrupted by pregnancy, lactation, or disease; though it is various, as has been before intimated from climate and modes of life.

The discharge usually returns once in twenty-seven or thirty days and rarely continues longer than five or six, and seldom shorter than two days.

— Adeviation —

A deviation less frequently takes place in the time of recurrence, than in the quantity, or time of continuance. It is difficult to ascertain, precisely, the quantity evacuated at one menstrual period, as it is impossible to come at an actual measurement. Experiments to ascertain the quantity have been proposed, and indeed really made with a sponge; but as a part of the blood may absorbed, as the orifice is stopped up by sponge, it must be but an inaccurate experiment.
The usual quantity for a healthy female of a moderately lax fibre is from three to six ounces.
Luxurious living, warm chambers, and a sedentary life, very much alter the quantity.
It may not be improper in this place to enumerate the opinions that have been entertained of the nature of the catamenia.
They have been supposed of so deleterious a nature, as to extinguish the life a male, and destroy the germination of plants. —
This certainly is giving the evacuation more poisonous power than any thing in nature possesses. —
Haller mentions that gardners would not allow their wives or daughters to approach a plant, if recently set, if their catamenia were flowing. —

— The Italians —

-The Italians harboured a notion that the breath of a woman during that period would kill silk worms. La Motte nourished the idea of these women being deleterious, but with some limitation; he only sus-pects those with red hair- he relates a story of a servant maid whose hair was red, spoiling a cask of wine and half a hog, by having access to the former during menstruation and salting the latter at the same period, which soon putrified. The improbability of these tales destroys entirely their credit.

The idea of menstrual blood being poisonous appears to have arisen from laws of the Oriental nations. The particular source of this error first arose among the Jews: they were fond of cleanliness, and converted their customs into religious ceremonies.- Their Legislator enjoined purifications as a part of religion. — After the most ordinary and necessary duties of life, they were compelled to have recourse to purifications. These purifications were thought particularly necessary to menstruating females. If a male touched the bed on which the female lay, he was thought impure for some time. The poor female was after this period unclean for seven days. It is not to be wondered at, that such opinions prevailed among the vulgar

-after-

after a strict adherence the above customs. —
The menses are apt to become acrid by long retention in the folds of the vagina; and if copulation is performed in this situation, the male often contracts a disease similar to Gonorrhœa, but this generally ceases spontaneously in a few days. Perhaps this discharge from the male urethra might have given rise to the rigor of the Jewish customs respecting the fair sex.
But now when science and civilization have banished superstition and bigotry, the greatest ornaments of the human race, are no longer considered as mere convient Utensils, the former ridulous customs are done away, and women perform their domestic and social pleasures without any suspicion of harbouring a natural poison. —
The cause of the menstrual flux has given rise to many speculations among Medical Philosophers. Some of them have been engage respecting minute inquiries into the proximate cause of menstruation; but the results of their investigations afford nothing satisfactory on the subject and all I can do will be to enumerate some of those which appear most plausible.
It has been said that the tides are caused,

— the —

—the growth of vegetables accelerated, and the human system much influenced by the moon, as in Mania, Epilepsy &c. The moon also has been supposed to be the cause of the menses, as they appe-ar at the interval of a lunar month.

But this last hypothesis is built on a tottering basis. As the influence of the moon is extended to all the animal creation, why is it exerted on the human female alone, and not extended to the inferior order of animals? If the cata-menia are the effect of lunar influence, why do they occur at puberty and cease in advanced life? Would not the moon exert its influence on all the females inhabiting the same latitude, the same country, the same city, the same hospital, and all the sisterhood, inhabiting the same convent, at one time, and not the catamenia return at exactly stated periods? Finally, would not all women become pregnant nearly on the same day of the month? Fermentation has been supposed the cause of the menses; but the idea of fermentation going on in the living animal blood has been entirely done away with—by the late learned and ingenious

Dr. G. R. Brown of Maryland in a dissertation published at Edingburgh, de ortu ammalium caloris.—
The experiments of Spallanzani fully evince that fermentation does not even go on in the stomach; and when this is admitted, it cannot be supposed that any can take place in the uterine arteries. The idea of fermentation in the living body is inconsistent with the laws of the animal œconomy, and indeed with reason.—
What power can act by inducing fermentation once a month? If fermentation is the cause of the evacuation, I will ask, what stops the process when once commenced? This error first arose among the chymists.—
On the other hand, the mechanic sect have supposed it occasioned by the depending situation of the Uterus. To this opinion let it suffice to say, that some women confined to bed for many years menstruate freely and copiously. I read in some essay one instance of a woman, in the Royal-Infirmary of Edingburgh who menstruated freely though she had been confined to bed nine years. She was much subject to Menorrhagia.—

(Universal plethora)

Universal plethora has been supposed the cause of the phenomenon. But when we consider the lax cellular texture of the lungs more easily admitting of a determination than any other part of the body, we might more reasonably expect hemoptysis than catamenia.

Nay, when the system has been reduced much below its natural plethoric state by hemorrhage even the morning of an expected eruption, still the menses flow.

Another modern opinion is, that of a partial plethora of the uterine vessels. For this opinion there are many advocates. If uterine plethora produces catamenia, why do they appear at puberty, and cease in advanced life? Wounds of the inferior extremities, from which considerable hemorrhages proceed, seldom prevent the flux, though they are inflicted immediately before the evacuation is to come forward.

It has been conjectured, and with confidence asserted, that the uterine veins are of a firmer texture than the arteries, and this texture, by retaining the venous blood, produced plethora in the arteries.

In my humble opinion, it must be difficult indeed to ascertain the comparitive difference between vessels in a lifeless and collapsed state: though by the assistance of microscopes some

— difference —

-difference might be suspected, the conclusion drawn cannot be just; for great is the difference between animate and inanimate matter. A substance, endowed with life, exhibits various phenomena peculiar to itself, and vice versa.

Another modern theory is, that the blood discharged, is not simple blood, but a secreted fluid. Shew me one secretion that returns at stated times and I will admit the menses to be of the same nature. The urine is discharged at certain times, yet the secretion of it incessantly goes on. Bile becomes, at particular times, more abundant than usual, Still the secretion is carried on, during a healthy state, with uniformity. Pasions of the mind, and irritating substances, produce a preternatural flow of tears, yet the secretory function is uniformly continued to preserve the humidity of the eye. How can any glandular function be performed only at stated periods, while the structure of the gland remains entire, and the supply of blood is uniformly the same?

An attempt to prove the menses a secretion, only removes the truth the farther off, and involves the subject in additional obscurity.

After

After delivering the various opinions on the subject of catamenia, I cannot conceal my astonishment, that the cause of menstruation should yet remain an object worthy of investigation.

Let us, for a moment, suppose it proven to demonstration, that it depended on lunar influence, on a ferment, on a position of the uterus, on general or partial plethora, and, lastly on a true secretion. Permit me to ask, what practical advantage could follow? As the labours of the learned have been fruitless, success on this point cannot be expected: And if we judge of the future by the past, the cause of menstruation will ever remain hidden in the recesses of obscurity.

In all probability all we shall ever know on the subject, is, that it is pure arterial blood, which proceeds from the mouths of those uterine arteries which open into the cavity of the uterus.

This fact is supported by the combined testimony of the most celebrated anatomists Europe and America afford. This structure being discovered by no theoretic author anxious to make it the basis on which he might rear an elegant superstructure, but delivered in the form of a simple truth, has obtained the credit of all physiologists. Indeed it has been proven by injection

injection inversions of the uterus also demonstrates this fact, as the blood can then be seen to proceed from the open mouths of the uterine vessels.

Every medical man acknowledge that the menses are indispensably necessary to the health of the female, and propagation of the human species. Though the discharge is in so many respects inconvenient, as being subject to excess and deficiency, either of which will destroy both the health of the system and the power of procreation.

When we contemplate on these inconveniences to which the human female is alone subject, in a philosophic view, we might be led to conclude that they are but imperfectly finished animals. In a superstitious light, we might suppose the discharge meant as a curse on the sex for the fall of man.

We come now to a part of the subject which Physicians have more generally agreed upon—the uses of menstruation. The menses are designed, principally, to preserve and keep up a state of tonic union between the uterus and ovaria, to give to the uterus that condition which capacitates it to retain the impregnated ovum; to carry a sufficient quantity of blood for the support and evolution of the fœtus

of the fatus in utero: and to support the health, and welfare of the female œconomy. The discharge may serve other purposes, but they are merely secondary.

Conception never appears before the menses, and never after they have ceased,— this is a strong mark of wisdom in all natural institutions; for, during both periods, the system is incapable off affording a sufficient degree of nourishment for both mother and child.

Rarely, or never, is coition prolific immediately before menstruation; and the true and final cause of the evacuation is, doubtless, to effectuate pregnancy.

Few would become pregnant were the interbals shorter. Sapient nature has so organised the human female œconomy, that women, unless affected by disease, may become pregnant almost at any time.

Coition, immediately succeeding the discharge, is often fruitful; but the time, of all others the most critical, is a day or two after the flood has ceased. a space of several weeks is necessary to form the adhesion of the ovum to the uterus— were the menses to occur at shorter intervals, the ovum would frequently be lost.

Those women afflicted with menorrhagia, fluor albus, or amenorrhœa, are generally unfruitful— and this state of the system, so inconsistent with the female

— œconomy —

economy, is the only cause of sterility which the art of medicine can remedy. Obstructions of the fallopean tubes; imperfections of the ovaria, and various other morbid affections of the internal parts, are not to be discovered by human sagacity, and, if discovered, admit of no cure. Ninety-nine of an hundred cases of sterility proceed from irregularities of the menses; and in ninety-nine of an hundred, we may promise a cure of barrenness, when it proceeds from these causes. vide Gregory's Lects. Those women who are subject to an hemorrhage vicarious to the menses, are sterile, though the evacuation be monthly; for, since the blood does not pass through the Uterine vessels, they loose their activity and tone. — Do not the ovaria sympathise with the Uterus and partake of its morbid affections? Can conception ever take place when the ovaria and Uterus are not in perfect unison with each other? — Some females of robust constitutions, and rigid fibre are called virago's. — — — — — These from constitution menstruate sparingly, or none at all. — They are also, with few exceptions, found to barren — In what manner is this to be explained

explained? Can rigidity of muscular fibre communicate a similar state to the arterial system? are the arteries endowed with muscular fibres and muscular properties? — — — —

Those females are the most prolific from whom the menses flow regularly, and appear neither too soon nor too late. —

In temperate climates where the menses flow most regularly, the number of inhabitants is generally in proportion to the fruitfulness of the soil. Women of the east are prolific — those of the north contrary. — Persia and India abound in inhabitants — Tartary and Lapland have few. — The women of Persia and India menstruate regularly and easily — Those of Lapland and Greenland, late and scanty, and, consequently, are not very prolific. — — — —

How wisely has nature ordered all things. — India and Persia are fertile and abound in inhabitants. Russia, Lapland, and Kamschatka are inhospitable and barren, and have comparatively speaking, but few inhabitants. — The north was called the hive of nations, because their numbers had gradually increased untill the productions of the soil were insufficient for

for their support. Hence they migrated to more fruitful countries, and excelled the inhabitants, enervated by luxury and ease both in valor and numbers.

A nurse cannot give suck to more than one child with convience, at the same time; during the period of lactation she ought not to conceive; for which purpose nature has so wonderfully established the female œconomy, that when the catamenia cease, the breasts swell; and, during the flow of milk, the menses are absent.

During pregnancy the vessels of the Uterus are distended - those of the mamma flacid and quiescent.

When pregnancy and the lochial flow have terminated, the breasts become distended, and the milk soon manifests itself. If the mother does not give suck to the infant, the menses soon resume their wonted course. But when the mother performs that natural function, the menses do not flow; and during this period, the woman does not become pregnant, though, indeed, exceptions -

To this -

to this have mentioned on the records of medicine. The mother cannot afford sufficient nourishment for the child at the breast, and one in utero at the same time. —
During pregnancy the milk alters in its nature, and becomes an improper nourishment for the child. — Pregnancy and lactation are — functions entirely opposite. —
A nurse, desirous to become pregnant, should discontinue the office of giving suck. —
The length of time for giving suck is prescribed by nature; for, so soon as the infant, by the assistance of teeth is enabled to chew food, it ought then to be weaned; for at this time, the infantine system requires a more substan-tial nourishment, and the milk begins to acquire new qualities. — —
It cannot have escaped observation, that the human female is apt to become impreg-nated soon after menstruation. —
Other females are incapable only during during the venerial rage, when the uterine system is excited. In infancy, the ovaria are small in size; and in females of ad-vanced years they are diminished and contracted.

- They -

they are remarkably full in brute animals, when they are in season. — Do not the ovaria, in a particular condition of activity, by their stimulus dispose to venery, and is it not this particular state of the ovaria that gives the female venereal appetites? Does not the female system fall into a leucophlegmatic and lax state, which gives predisposition to dropsy and many other diseases when the stimulus of this state of activity of the ovaria and uterus is absent? The illustrious Cullen has offered a conjecture when treating of Amenorrhœa, and supposes that a certain state of the ovaria in females prepares and disposes them to the exercise of venery about the period when the menses first appear. — This must, evidently, be the state of activity above mentioned. — Since menstruation is of this nature, it is proper that the same function should be wanting in animals of an inferior class. If they were endowed with the faculty of menstruating they would enjoy an uninterrupted fecundity, now the privilege of man alone. —

An
Inaugural Dissertation
On
Dropsy
Submitted to the examination
of
The Provost, Trustees, & Medical Faculty
of the
University of Maryland
For the degree of Doctor of Medicine
By John B. Ross
of Maryland
March 1833

To

Hanson Penn L.L.

of

Prince Georges County Md.

This essay is respectfully inscribed

as a testimony of gratitude

by his friend and pupil

The Author

Hydrops

It was the generally received opinion among physicians before the time of Dr Rush; that dropsy was dependent upon or caused by a general debility of the body. Dr Cullen thus expresses himself upon this point; "One of the most frequent causes of dropsy I apprehend to be atlaxity of the general exhalant vessels," and again "That a general debility may produce a laxity of the exhalants will be readily allowed, and that by this it especially occasions dropsy, I judge from thence, that while most of the causes already mentioned (viz. those that obstruct venous circulation) are suited to produce dropsies of particular parts only; the state of general debility gives rise to an increased exhalation into every cavity and interstice of the human body and therefore brings on general disease. Thus we have seen effusions of a serous fluid, made at the same time, into the cavity of the cranium, into that of the Thorax and abdomen and likewise into the cellular tissue allmost over the whole body. In such cases the operation of a general cause discovered itself, by these several dropsies increasing in one part as they diminish one another, and this alternately in different parts. This combination, therefore, of the different species of dropsy or, rather, this universal dropsy, must I think be referred to a general cause, and in most instances, hardly any other can be thought of, but a general laxity of the exhalants. It is what I therefore call the Hydropic diathesis which frequently operates by itself, and frequently in some

measure, concurring with other causes, is especially that which gives them their full effect.

It would seem rather surprising, that this theory should obtain such general acceptation, as the treatment in vogue was so directly in opposition to it. Evacuants of all kinds were put in requisition as the only remedial means, facts and experience were against it and it fell as all theories not founded upon correct pathology will do, never to rise again.

Dropsy is caused primarily by a condition (which if not inflammatory is closely allied to inflammation) of the solids; it is dependent upon an increased action of the arterial system. That this doctrine is true is proven by the following facts; that at the termination of inflammatory action, in a subacute or chronic state, serous exhalations generally occur in the surrounding cellular tissue; thus after an attack of Gout or Rheumatism & after the reception of severe local injuries, of the joint, by mechanical violence, serous effusions generally occur. Effusions in the Chest are the frequent consequences of Pleuritis; as also effusions in the Cavity of the Cranium and of arachnitis. The fact that all inflammations of the serous membranes if not very violent or quickly terminated by resolution terminate by effusion, is directly in favour of this position. We also see copious effusions of water in the form of sweats in every kinds of inflamma

-tory fever. An excess in any kind of secretory action would seem necessarily to imply an inflammatory tendency & the excess is intended by nature as a relief to this excitement. Thus an increased discharge from the salivary glands necessarily implies that a stimulus has been applied to them; an increased discharge of bile never takes place from the liver, unless it had previously been in a state of congestion or inflammation, and inflammation of any of the mucous linings is necessarily followed by an increased discharge of mucus. It is also known that inflammation of the testicle gives rise to Hydrocele.

But arguments have been advanced against this doctrine of the pathology of dropsy, which at first sight appear rather plausible, but if minutely examined they will be found to have little intrinsic merit. It has been said that dropsy is a frequent consequence of excessive hemorrhage and other debilitating discharges, and that when the disease is thus induced, neither the nature of the causes nor the consequent symptoms justify the opinion, that the disease is of an inflammatory character; but dissection and observation prove beyond doubt that excessive debility of the system does by no means preclude the possibility of considerable inflammation in a particular part. The Experiments of Leeds & Keller prove that in animals bled to death, the membranes of

of the brain and various other membranous tissues constantly show a highly injected and congested state; differing in no degree, from the appearance of the same membranes, in an actual state of inflammation. Often there was found, an effusion of watery serum, in the cavities of the brain, and frequently a high degree of action, took place in the heart, and arteries just before death.

There is no doubt that this increased secretion is attended with diminished absorption. It has been proven by the experiments of Majendie and others, that the veins are the only absorbents from the cavities and cellular tissue. It follows as a matter of course that as the capillaries are in a distended state in dropsy, that the veins are in the same state; and Dr. Home says, "That the less blood there is in the veins, the more rapidly absorption will take place;" And the fact, that bloodletting is the most efficient means, for the cure of dropsy, goes directly in support of this position. From this it appears that two morbid actions are at the same time present in dropsy namely, increased secretion and diminished absorption.

The remote causes of dropsy are, — an obstruction to the free return of blood to the heart; the influence of cold, the repulsion of many eruptive diseases, excessive hemorrhages, or copious and long continued discharges of any kind, suppression of habitual discharges, diseased con

dition of the kidneys, chronic diseases which have a tendency, to weaken the system, arsnic, and it may be caused by some of the exanthemata as Scarlatina and Measles.

Dr Ayre in his treatise on dropsy doubts whether obstructions to the free return of blood is ever a cause of dropsy. When this disease supervenes on account of induration of the liver, he supposes that it is because the inflammation of that viscus extends to its peritoneal covering and is thence reflected over the whole peritoneum; no doubt dropsy may sometimes occur in this way; but we should think that in a majority of cases the most reasonable mode of accounting for its production would be this; that the congestion of the vena Portae may extend itself to the vessels of the peritoneum and thus produce the condition necessary to dropsy. But the position of Dr Ayre is further untenable, from the obvious fact, that pregnant women are affected with oedema of the lower extremities, from the pressure of the gravid uterus on the ascending cava; and that a ligature around a limb, if kept on a sufficient time, will produce the same effect. An Induration of the spleen, pancreas and other viscera will also produce the disease.

When the system is labouring under the effects arising from Scarlatina or measles or suffering from the operation of mercury; it is predisposed to dropsy and if Cold is applied, it is apt to call forth the latent diseases. Unless the system is thus predisposed, cold seldom acts as

an excitant of dropsy. Neither do these exanthematous diseases often produce the disease unless Cold Cooperate with them. When they disappear they leave the surface in a highly irritable condition, and there is a very free cutaneous Exhalation; the sudden application of Cold will tend to produce a torpor in the emunctories of the skin, the natural consequence is an engorgement of the capillaries of the subjacent Cellular tissue. This tissue from the association of the previous disease is already inclined to morbid excitement; and from the causes just mentioned may readily pass into a state of irritation or subinflammation. Dr Elrlie states "that dropsies from Cold are frequently attended with catarrhal symptoms; and are allways manifestly of a phlogistic character. When blood is drawn, it is almost allways found sizy, and the pulse is tense, quick, and frequent, especially in those cases, that occur as the sequella of Scarlatina and Measles. The effusion generally takes place very rapidly. The variety of dropsy which most commonly proceeds from Cold is anasarca, although some degree of abdominal effusion is apt to occur,,.

From the observations which we have had occasion to make on the effects of excessive hemorhage, it will be seen that Congestions of particular parts are apt to occur from such loss of blood. The parts thus congested gradually pass into a state of irritation or subinflam-

-mation. And this loss of blood also renders the absorbents preternaturally active, in so much so, that the fluids exhaled into the different cavities are rapidly taken up, the fluids also that are taken into the stomach are no less speedily absorbed; by this means the blood is rendered preternaturally thin, this being conveyed to the heart stimulates it to undue action and thus produces that state of the system so favourable to dropsy. That this is not speculation or mere theory, the experiments of Haales and Schulze will testify, for by taking large quantities of blood from animals and forcing them to drink abundant draughts of water, they succeeded in producing dropsies in them. Hallé and Cullen were also of opinion that excessive hemorhages have a tendency to increase the quantity of serum in the blood. Dropsies from hemorhage are usually of the anasarcous kind, and when blood is taken, the quantity of crassamentum is found to be unusually small, in comparison to the serum. It is generally cupped and presents the buffy coat. The pulse is full and active, though not hard or tense. Considerable time usually elapses after the hemorhage, before the dropsical effusion occurs.

"The other causes enumerated less frequently produce dropsy, if we except those," of Chronic diseases which tend to debilitate the system," they do not

however act as Dr Cullen supposes. by inducing
a lassity in the exhalants, but by indirectly st-
imulating or producing an inflammatory act-
ion in them. To the causes already mumerated
may be added, intemperance in the use of ard
ent spirits, amenorrhea, diabetes, Chronic Gout
&c. rupture of lymphatics, of the uretes, & also
of hydatids.

The symptoms of dropsy are a hard, full &
quick pulse, sometimes small, it is allways
indicative of inflammatory action. The blood
taken in dropsy is, as has already been sta-
ted sizy and cupped, usually containing a small
quantity of crassamentum. The appetite is us-
ually wanting, but in dropsy from hemorrhage
it is generally morbidly increased. The thirst
is allways considerable, and frequently urgen
-gent. The skin is invariably harsh and dry. The
secretion from the kidneys is usually scanty &
high Colored, sometimes it is whitish. In
many instances, more or less coagulable serum
exists in the urine, in others there is no appearan-
ce whatever of it. It appears from observation that this
phenomenon happens when the disease arises from
general causes and when it is obviously of an in-
-flammatory character. The quantity of coagula-

-ble matter, therefore, contained in the urine may be a pretty correct criterion by which we may judge of the degree of inflammation present. Dr Bright observes, "That in dropsies which occur after scarlatina the urine generally contains a large quantity of serum; whilst in local dropsies and those in which the general vascular system does not participate, little or no serum is detected. And Dr Cruikshank says that, "When the urine is high coloured, scanty, and on cooling deposites a red sediment, or remains muddy the liver, probably is in a state of organic disease.

When the disease is allowed to proceed without medial management, or when it is unusually obstinate, the dropsical effusion will extend itself into the cellular tissue of the whole body. In Hydrothorax and Ascites, more or less oedema of the feet always attends and especially in advanced stages of the disease, and on the other hand if anasarca is allowed to take its course, it will gradually extend itself upwards to the body and thus produce universal dropsy. Sometimes in ascites and Hydrothorax the legs become swollen to the greatest extent in the morning, if the patient has kept the erect posture principally during the day. It does not take place if the recumbent posture is kept. This symptom is produced by the dropsical effusion percolating the cel-

-lular tissue assisted by its own weight and the posture of the patient. The fluid is not thrown out by a diseased action, in the vessels of the part; the appearance is produced in the manner just explained. If the patient keeps the recumbent posture the swelling of the lower extremities subsides.

When the dropsy becomes general, the body swells to a considerable size. The skin has a peculiar, tense glossy appearance. The breathing becomes laborious and difficult; all the functions of the body and faculties of the mind are gradually impaired. It is generally those systems that are weakened by excesses in the use of ardent spirits, or of a general cachectic habit of body that dropsies prove most obstinate and become most general in.

It is now necessary that the diagnoses of the different varieties of dropsy should be casually noticed. The only condition that bears any resemblance to Ascites is pregnancy, and from this it may be easily distinguished; by the uniformity of the tumour, the fluctuation of the fluid, the pressure and distension of the sides on lying down, the oppression and difficulty of respiration on raising the abdomen higher than the thorax, from the pressure of the effused fluid on the diaphragm, the dryness of the skin &c. And on the other hand there are certain symptoms which prevail

-liarly distinguish pregnancy.

Various affections of the chest, resemble Hydrothorax but from these it may be distinguished with considerable accuracy. When with the other symptoms, there is an oedematous swelling of the legs and feet, a pale & sallow appearance of the countinance, a scarcity of urine, inability to rest or sleep in the recumbent posture, a sense of suffocation, when firm pressure is made on the abdomen, so as to push the diaphragm upwards. There is a symptom which does not allways attend the disease, but which when present, is the most certain diagnostic symptom and that is violent and sudden starting during sleep. Dr Cullen remarks upon this "I have not found this symptom attendant upon empyema or any other disease of the thorax, and therefore when it attends a difficulty of respiration and any the smallest symptoms of dropsy, I have had no doubt in concluding the presence of water in the chest." Laurence also asserts, "that this symptom is sometimes absent; yet when it does occur, it may be viewed as a pretty strong evidence of the existence of thoracic effusion.

Hydrocephalus may be distinguished from infantile remittents, the only disease with which it can be confounded in infants; by the irregularity in the remissions and exacerbations of remittent fever, by the difference

in the appearance of the stools, in Hydrocephalus the discharges have a glaing and dark green appearance, while in the other they are very fetid and of a dark brown colour. Dr Conduit observes, "that a micaceous deposition like chrystals of bracic acid, is almost peculiar to Hydrocephalus in its second stage. In Hydrocephalus also the abdomen becomes flattened, and soft & flabby to the touch, in remittents it is hard and tumid.

The diagnostic symptoms of the first stage of Hydrocephalus are:- unusual irritability of temper, irregularity in the intestinal discharges, occasional frowning, watchfulness, starting during sleep, an irritated quick pulse, grinding the teeth &c. In the second stage, ~~grinding~~ torpor of the bowels, pain in the head, intolerance of light and sound, circumscribed flush in one cheek, hot and dry skin, with a frequent, tense and active pulse; and in the last stage:- somnolency, strabismus, paralysis of one or both eyelids and lastly, Coma Convulsions, & death. Dr Johnson observes, "that there is no one pathological symptom, that can be relied upon as characteristic of idiopathic cerebral fever, our diagnoses must be taken from the whole collectively".

The next part of our subject is the general treatment. The general indications are very obvious if what has been said above of the causation of the disease be correct. They are 1st To relieve the congestion of the

capillaries and diminish inflammation by lessening the quantity of blood in the veins. The second is to lessen or destroy the diseased action of the secretories and promote the absorption of the effused fluid. This may be fulfilled by remidies which diminish the action of the heart and arteries & derive the blood from the engorged capillaries. The remidies used to promote the second indication are those that increase the discharges from the different serous membranes and also those that stimulate the absorbent system. In relieving the capillaries bloodletting is the most essential remidy, for it is impossible that the distension should be diminished while there is a tone remains the same. This remidy ought to be made use of when the pulse is active, tense, & frequent. This remidy not only diminishes inflammation, but promotes absorption by lessening the quantity of blood in the veins. The muscular system may be in a languid state and debilitated, while the pulse is indicative of inflammation. This case does not constitute an exception to bloodletting. But when this condition of the muscular, together with a debility of the animal system, obtains, bleeding is contra-indicated. Hoffman and Home speak of the utility of blood-

letting. Dr Monro and Cruikshank. Dr Rush says, "I could add the histories of many cures of anasarca and ascites performed by means of bloodletting; not only by myself, but by many respectable physicians in the United States." Dr Eberle also states, "That he has known one or two efficient bleedings to cause an immediate ~~bleeding~~ and conspicuous amendment in the disease." After general bleeding has corrected the momentum of the circulation, considerable benefit may be derived from local depletion by cupping and leeching, provided the dropsical effusion be in the cavity of the thorax or abdomen.

Blisters may sometimes answer a good purpose in the treatment of Hydrothorax and Ascites. They do good by tending directly to derive the circulation from the engorged capillaries. In Anasarca local depletory measures are attended with risk of mortification. It has been stated that setons are of considerable efficacy in Hydrothorax But we should think that blisters, cupping, &c are much more quick and decided in their effects. In the application of these remedies, particular attention ought to be paid lest there be an anasarcous tendency in the integuments.

That purgatives are efficacious remidies in this

disease has been acknowledged by physicians from the earliest times. It is well known that they operate beneficially by abstracting from the general circulation, in this way they exert a two fold action, first by relieving the engorgement of the capillaries which prevents further undue secretion and secondly they promote the absorption of the already effused fluid by relieving venous congestion. Purgatives produce beneficial effects more obviously in abdominal dropsy, for the obvious reason, of their action being more topical. Their good effects however are by no means confined to ascites, they may be used with advantage in the other varieties of this disease and particularly in Hydrocephalus. We should be cautious however in carrying their operation too far, as by this means dysentery is frequently induced. When instead of copious watery discharges, there is a discharge of mucous, accompanied with griping and tenesmus, this ought to be abstained from. Those Cathartics that produce copious and watery discharges are the most efficacious. They are called Hydragogues.

Of these the Supertartrate of potassa receives the highest commendation, it is mild and cooling, and possessed of considerable potency as

its action. It also at the same time acts upon the kidnies. Dr Eberle recommends it highly in combination with Sulphate of Potassa, Squill & Tartrate of Antimony.

Elaterium is generally considered as a good Hydragogue but is inferior to the one just mentioned, it produces more irritation and is more violent in its action. Scammony & Gamboge have also been used with considerable benefit. Dr Sydenham prefers those purgatives that are mild in their action to those of the drastic kind. It is certain that laxatives are particularly efficacious in producing large watery stools.

But the most manageable and desirable way of carrying off the effused fluid is by the kidnies and therefore those medicines that act on this part by increasing the discharge therefrom are of great efficacy. It has been observed that when the system is labouring under inflammatory action, that an increased discharge from this organ is difficult to be effected. This condition of the system must therefore first be obviated before we can derive benefit from diuretics. And when the dropsy is extensive and the blood deprived of a great portion of its serum, there is also a great difficulty in exciting the kidnies.

In this case copious draughts of water is usually recommended. Some are however of opinion that this procedure is more advantageous and this was especially the opinion of the older physicians; it led to the practice of enforcing almost total abstinence from the use of drinks, and it is exceedingly difficult to enforce this injunction all however agree that is certainly prejudicial when the dropsy is caused by excessive hemorrhage for then the venous extremities rapidly absorbing fluid taken in and thus the quantity of serum in the blood is unduly increased. In such cases no more drink ought to be taken than the urgent thirst will allow. The diuretics most frequently used are; the Squills, Colchicum, acetate and nitrate of Potassa, digitalis, Cantharides &c. Squid is the article most generally used and is considered the most efficacious, when the system is not in an inflammatory condition, when the urine is scanty high-colored, and sedimentous. It seems to exhibit its most powerful in Hydrothorax, it is more generally used in this than in any other variety of dropsy. Squill combined with Nitrate of Potassa and Calomel has been highly recommended. The only objection against this combination, is that it sometimes produces

gastric disorder, such as nausea, vomiting or pain in the stomach. The following diuretics may also be used with considerable benefit viz. Potash, Digitalis, Canthariades and turpentine.

Diaphoretics are also of considerable utility, except when the skin is in a dry ~~state~~ and harsh state and when the disease is phlogistic in its character, in this case considerable benefit may be derived from combining antimonial preparations with diuretics.

Emetics have also been recommended by Sydenham and others as excellent remedies in this disease. They have no doubt been used with considerable benefit; and especially in Hydrothorax; but their use in the other formes of dropsy have now been generally abandoned.

Mercury is a favourite remedy in this disease with American physicians; its use is indispensable when the dropsy is dependent upon affections of the liver or spleen; its use however should not be carried farther than to produce a slight sorenes of the gums. In dropsy arising from hemorrhage it ought not to be used.

Dr Rush mentions hard labour, low diet, thirst & fear as having cured dropsy. He relates several interesting accounts of their good effects.

Bandaging may also be used with considerable benefit in several varieties of dropsy and more especially in anasarca and ascites. Stimulating frictions are also beneficial.

Frequently all our attempts for the removal of the effused fluids per vias naturales are ineffectual, and we are obliged for the relief of the patient and to gain time for the exhibition of our remedies to resort to tapping. It is usual to delay this operation until every other remedy has failed. It is without doubt the most direct way of freeing the body of the effused fluid and every thing induces the belief, that if this operation was not deferred until the disease has assumed its most inveterate character, that the successful terminations of dropsy would be much more frequent.

Finis

disease, independent of hereditary conformation, are indeed numerous. The first, and most common cause is hard labour; The variety of Pneumonic affections, improperly treated, may be classed as causes also. There are certain other causes which will produce asthma; as the dust of mills, or the fumes of metals, & other minerals inhaled into the lungs, frequently produce it.

It is not at all surprising, that the disease should be produced by these substances, since we see it also frequently occasioned in constitutions disposed to the disease by common smoke, and even from an atmosphere impregnated with offensive odorous spences, as that of musk, and in one instance related "by Vinaces," by that of roses". Hence

the practical inference would be, that persons subject to diseases of the lungs, ought not to work in mills, nor expose themselves in situations where gases were evolved.

It is very probable that the altered gravity of the atmosphere in some cases, proves beneficial or injurious according to the state of the bronchial vessels; as some asthmatics can respire with more ease on elevated situations, others again find more relief in a low champaign country.

Asthma sometimes occurs upon a sudden disappearance of some cutaneous eruptions; that, this is the cause, is perfectly manifest from the recurrence of the paroxysms as soon as

the eruption has been recalled or reexcited.

It is sometimes excited also by a suppression of any usual evacuations; such as uterine hemorrages, and more especially by the suppression of haemorrhois. Why? Because the lungs being the weaker part, an accumulation must necessarily take place at that point.

The foregoing, with irritations in the stomach and bowels, profuse evacuations, intense study, strong mental emotions &c, are among the principle predisposing and exciting causes of this disease.

Asthma is more commonly a disease of the later, than the earlier periods of life; for it does not often appear in infancy

nor youth, although occasional instances of this have occured, particularly in those unfortunate beings, hereditarily predisposed to this morbus maximè terribilis.

The approach of the paroxysm is generally indicated by langour, flatulence in the epigastric region; In the commencement of the disease, asthmatics are not harrassed much by symptoms of dyspepsia; but after it continues sometime, you will find almost every asthmatic to be dyspeptic, with these there is a disposition to yawn. The urine voided is generally colourless.

These symptoms are followed in the night by an oppressive weight over the eyes, and a

sudden inclination to stool, with uneasiness of the abdominal muscles, which as suddenly shifts its seat to the stomach, and then flies to its favourite stations, the chest; now comes on a dry cough, a great difficulty of breathing, with a wheezing, and commonly there is great difficulty of speaking.

The patient cant lie down, and experiences a heaving of the chest & shoulders.

A free circulation of air is now very agreable to him, and indeed it is absolutely necessary, that his appartment should be freely ventilated; but not with too cool air. The fit generally continues from four till eight or ten hours; but usually the

the accession is about the middle of night
& continues until the morning, for the most
part however, the patient wakes suddenly
and feels a most distressing stricture across
his chest, at the same time the extremities
are cool; the heart palpitates; the pulse is
sometimes quickened, but usually weak irregular,
and often intermitting, the face in most cases
is pale, though sometimes it has a livid appear-
ance.

The fit gradually declines with a deposition
in the urine; and a slight or copious secretion from
the bronchial surface; which seem to announce
a return of the equality of excitement, and of the
natural rythm of movements in the general system.

It is often, however many hours before a fit of this kind very sensibly subsides; the patient may labour under some degree of constriction during the whole ensuing day, and experience a like fit the next night; or the fit may return several nights successively.

The preceding we conceive to be the most essential characteristicks of this most terrible disease; and every phenomena of the disease, we think evinces the great breach, which is made in the balance of the excitement, and consequently of the circulation. The whole vital energy appears to be concentrated about the lungs, the grand seat of irritation, and temporary engorgement of the vascular system.

Whether the suffocative tightness of the chest be the result of a spasmodic stricture of the respiratory organs, as Willis conceived, or not, we will not attempt to ascertain; but we think by an attentive observation of the phenomena, as they appear in the paroxysm, we can not fail to perceive, that there is a great accumulation of blood in the vessels of the lungs, as well as a concentration of excitement, while the skin, the extremities, and various other parts of the body, are deprived of their share both of excitement and circulation.

Hence our great indication in the cure of the disease is to diffuse the excitement over the whole body, and restore the balance of

circulation.

The disease generally terminates in death, if not cured in the beginning; though when it is produced by other diseases, we think it may sometimes be cured, by a proper attention to regimen, and removing to a warm climate. At other times, when violent it may terminate in Pneumonic inflammations, Phthisis Pulmonalis, or Hydrothorax.

We will now speak of the prognosis and cure of the disease; and here it is necessary to observe, that, when it arises from an hereditary predisposition, we believe it is very seldom cured.

All relaxants we conceive to be always

hurtfull in this disease, by inducing a degree of debility, which the system is not able to withstand. Hence the impropriety in using the warm bath. Cold bathing as a tonic, we think may always be used beneficially, as a prophylactic.

The digestive function, should always be kept in a proper state by diet, indeed the rules to be observed by a dyspeptic, might very properly be adhered to in this disease, that is, all flatulent vegitables should be avoided if posible: The diet used should be nutritious and easy of digestion. As respects drinks, all malt liquors and tepid drinks should be indulged in as little as possible.

We may truly say, that, cold water is better than all other drinks.

The atmospherical vicissitudes should be cautiously guarded against, and a regular and uniform secretion from the cuticular pores should be kept up by the use of flannel.

The various kinds of exercise may be used, but no mode should be carried so far as to induce fatigue. Upon the whole, the great object is, to avoid all exciting causes.

The treatment of asthma during the paroxysm, has been a subject of much dissention. Dr. Cullen, who regarded plethora & turgescence of the blood vessels, as the usual cause, says bloodletting must be

used in the first attack of the disease, and especially in young persons; for the purpose of taking off this turgescence. The objection to this mode of treatment is, that it renders the system more liable to a plethora, and recurrence of the paroxysms; but if we observe the rules above stated respecting diet, we need not be apprehensive of plethora from instituting bloodletting.

What shall we say of antimonials in the treatment of this disease: both nauseating medicines, and emetics have been recommended, and each of them has often been found highly advantageous in the disease. The first by diminishing the actions of the heart, from the nausea

produced, and the second by determining to the surface of the body and restoring the natural rythm of movements in the systems; though, we conceive it improper to use emetics, when the congestion already exists, as they would certainly threaten effusions in the lungs; therefore, if used at all, we think the most proper period for their exhibitions, would be, in the accessions of the paroxysm, where it is regular, before the accumulations in the bronchial vessels had taken place.

For this purpose the vegitable emetics, as Ipecacuanha, have been selected as preferable, because, they do not produce so much debility as the antimonials; Then if the Ipecacuanha

be selected, we think the dose should be such as to produce full vomiting, for, if given in small quantities, it would be very apt to act on the bowels, without producing emesis, our desired object to aid the evacuations from the bronchial surfaces, and alleviate the disease.

Purging. Beyond the intention of keeping the bowels regularly open, purging has not been so highly recommended, though when the disease depends on an affections of the liver or some suppressed evacuations, we think they may prove beneficial, if not carried to too great an extent so as to debilitate by their operation. Indeed we should always be governed by the existing circumstances of the case,

and not rely on any one remedy to the exclu-
-sion of all others.

Blisters. These have frequently been used,
but, like issues or seatons, they can only be
of ulterior advantage, for the fit must be
very long, if it continue, till the blister pro-
duce vesication. They may be very beneficial
sometimes as prophylactics.

Sinapisms might have much more said
in their favour, if applied during the fit, as
their operation is not near so tardy as epis-
pastics.

Antispasmodics & sedatives, have occasion
ally afforded relief, as Opium, ether and
assafoetida combined, also camphor, castor,

drum Americanum &c. But we think the better way would be to use them combined with diaphoretics, in order to bring about our grand design. The equilibrium of excite=
=ment and circulation restored.

If there be a suspicion of organic disease accompanying asthma, still we must use the same remedies, being governed by general principles.

With these few observations, in order to fulfil the injunctions of the institutes. we hasten to conclude this essay; and although conscious of the numerous errors, and imper=fections it contains. I feel a consolation, when I think a subject of such importance